Memorandum

U.S. Department of Transportation
National Highway Traffic Safety Administration

Subject: **ACTION:** Memorandum to File on Petition 409 Nissan Skyline GT

Date: NOV - 8 1999

From: Luke Loy, Office of Vehicle Safety Compliance

Reply to Attn. of: NSA-32LLo, Petition 409

To: File

The Nissan Skyline GTR and GTS passenger cars share many components with the US market Nissan 240SX and Nissan 300ZX. These shared components made the compliance testing of the non-crash standards simpler than it would normally be for a vehicle capable of being modified 49 CFR 596.3(b). In addition, J.K. Technologies performed 4 crash tests, FMVSS 208 (belted), FMVSS 214 twice, and FMVSS 301.

In performing the FMVSS 208 testing, J.K. Motors determined that while the Nissan Skyline is equipped with seat belts and identical airbag systems to the U.S. Nissan 240SX, a more informative test was running the FMVSS 208 test belted, which tested the seat mounting point modifications, rather than retesting the same steering column/airbag components, which had previously passed DOT FMVSS 208 testing in the Nissan 240SX and the DOT NCAP testing of the Nissan 240SX, see attached.

#

J.K. Technologies, L.L.C.
3500 Sweet Air Street
Baltimore, MD 21211
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FAX: (410) 366-7655
Luke Loy
U.S.D.O.T. - Office Of Vehicle Safety
Room 6111
400 Seventh Street, S.W.
Washington, DC. 20590

Re: Nissan Testing

Dear Mr. Loy,

The reasons behind our doing a belted 208 test instead of an alternate unbelted test are as follows:

First, we asked DOT specifically to recommend the most stringent form of testing and the most professional lab and they suggested Frontal 208 and MGA Labs. We then, invited DOT to attend the crash testing for Frontal 208, Side 214 twice, and rear 201.

Second, the similar model in America to the GTR in Question would be the 240SX series. These vehicles are from a platform that, though not identical, is very similar. The differences in the platforms come only in the engine mounts and transmission mounts. (The cars are the same weight, have a similar shape, same wheel base, same options, same materials, same construction, etc). The S14 platform has been tested in the NCAP Program and received 4 and 5 star ratings. The only differences between the NCAP tests and the frontal test that I did were that the NCAP tests were conducted at 35MPH and they took "neck extension moment measurements during those tests. These "neck extension moment" measurements were far below allowable limits of 57Nm, as are all the test that have been conducted on Nissan passenger cars. If we had conducted the "neck extension moment" measurements then the data would have been acceptable to DOT according to MGA as an alternate test method. These measurements were not brought to our attention by DOT personnel, or MGA personnel, before the test was conducted, even though, we informed DOT well in advance of testing and invited DOT personnel to attend, no less than three separate occasions. It should be noted that these "neck extension moment" measurements are included in an alternate form of testing (49CFR 571.208S13.2) and not a specific requirement in the regular belted test. (49CFR 571.208S5.1)

Third, the airbags used in the 240SX and the GTR are both the de-powered " smart" bags. Thus, the a sled test is basically meaningless as stated in the words of MGA engineers, "its a cake walk." The 18.2 g's pulse for 100msec. exhibited during the "sled" test does not compare to the 40+g's pulse for 100msec. exhibited during our frontal impact test. We chose to test all the systems under the worst case scenario. We took this opportunity to test the changes at the belt mounts that have been

described in the "confidential"submittance to DOT. Had we not run a belted test we would not have the confirmation of our modifications to the belt mounting points, which are required in other FMVSS standards. Static belt test do not exert the same types of forces on the belts that the frontal impact exhibits. Thus, we chose to run a belted test for the real world data on all these safety systems.

Third, projecting 5,700 deployments per 1,000,000 cars for a ten year vehicle life cycle (DOT crash data), a total of only **.57** deployments can be expected (100 total cars). Using the recognized current national seat belt use rate of 70%, 30% or **.18** occupants of these deployments may involve an unbelted incident. Approximately 20% of the deployments would be at a crash pulse similar to or more severe than used for the FMVSS 208 Alternate sled test, resulting in the potential that **.036** of the passengers may be involved in such a deployment. Assuming 60% of these passengers are the same size or larger than the 50th percentile male ATD, **.0216** front occupants could be large enough that sufficient torso energy may not be dissipated to meet the specific neck extension requirement of the standard. As you can see when you examine the numbers it was far better for us to test for 70% of seat belt users than the **.0216** possible unbelted occupants involved in 208 level impacts. All of the above caculations can be extracted from published DOT crash data. Another fact that should be noted is that the agency is still involved in continuing discussions with interested parties of the neck injury criteria. The 57Nm levels presently in force are being questioned by the major manufactures and other concerned parties. An example of these on going comments may be seen in the submissions by GM to FR Doc. 99-16165 Filed 6-24-99 closing date July 26, 1999. Current level of 57 Nm apparently will be raised to 77Nm with no muscle tone and 96Nm with 80% muscle tone for in position occupants. It is apparent that GM is worried that they failed a sled test and they are stating that **250,000** vehicles manufactured in the first six months of this year qualify as an inconsequential non-compliance. Certainly, 100 cars that passed the frontal 208 barrier test should not be a problem.

Finally, I would like to say that we kept the Office Of Vehicle Safety informed of all testing that was conducted. We have conducted more destructive testing than any other RI has ever conducted in the form of two side impact 214 tests(both sides), one frontal test and one rear impact test, as well as, the associated FMVSS test confirmations that go along with these destructive tests. These tests have confirmed that the safety systems on these vehicles are well engineered and are functioning as designed. DOT's private testing has confirmed that Nissan is a leader in the area of safety design on many of its passenger cars. The GTR is no exception to the rule as we have shown. With a production rate of 100 cars, we have conducted four tests. That is somewhere in the neighborhood of **4% of our production rate**. I do not know of another company that has tested to that level.

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For the reasons as stated above, we would request that the Office Of Vehicle Safety accept our crash data as submitted. Thank you for your kind attention to this request.

Regards,

Jonathan Weisheit, Project Engineer

mga research corporation

TEST REPORT
30 MPH FRONTAL IMPACT
1999 A.I. CRAFT GTR 2 DOOR

MGA Report No. C98C3-029

Test Date: October 30, 1998

Report Date: November 17, 1998

Prepared For:

J.K. Motors
3500 Sweet Air Street
Baltimore. MD 21211

Prepared By:

MGA Research Corporation
5000 Warren Road
Burlington, WI 53105

SIGNATURE APPROVAL PAGE

Procedure Number: NHTSA 30 mph Frontal Impact Test Checklist dated March 11, 1998

Total Pages: 179

Prepared By: _____
Dave Kosloske, Project Engineer

Approved By: _____
John Fleck, Facility Director

Technicians: John Beattie
Al Chalmers
Tim Michnay
Erika Miller
Erik Nelson
Chris Novak
Paul Schlimmer
Kyle Shelton
Todd Stevenson

Secretary: Donna Janovicz

The results presented in this report relate only to the specified test items

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PURPOSE AND TEST PROCEDURE

PURPOSE

The purpose of this test was to determine whether the subject vehicle, a 1999 A.I. Craft GTR 2 Door, meets the performance requirements of FMVSS 208, "Occupant Crash Protection"; FMVSS 212, "Windshield Mounting"; FMVSS 219 (partial), "Windshield Zone Intrusion"; and FMVSS 301, "Fuel System Integrity," in the flat frontal barrier impact mode.

TEST PROCEDURE

This test was conducted in accordance with NHTSA's Office of Vehicle Safety Compliance (OVSC) Laboratory Test Procedure No. TP-208-09 dated March 15, 1993. Data was obtained relative to FMVSS 208, "Occupant Crash Protection"; FMVSS 212, "Windshield Mounting"; FMVSS 219 (partial), "Windshield Zone Intrusion"; and FMVSS 301, "Fuel System Integrity," performance.

The test vehicle was instrumented with seven (7) accelerometers to measure longitudinal axis accelerations and one (1) accelerometer to measure vertical axis acceleration. The vehicle's specified impact velocity range was 28.9 to 29.9 mph. The vehicle impacted a fixed flat barrier, the face of which was covered with a sheet of 3/4 inch thick plywood.

The test vehicle contained two (2) Part 572 E 50th percentile adult male anthropomorphic test devices (ATDs). The dummies were positioned in the front outboard seating positions according to the dummy placement procedures specified in Appendix C of the Laboratory Test Procedure.

Both dummies were instrumented with head and chest accelerometers to measure longitudinal, lateral, and vertical accelerations; a chest potentiometer to measure longitudinal deflection; and left/right femur load cells to measure axial forces.

The forty-three (43) data channels were multiplexed and recorded on five IBM PC compatible computers with Metrabyte DAS-16F A/D converter boards. The data was digitally sampled at 10,000 samples per second and processed per Section 11.13 through 11.15 of the Laboratory Test Procedure.

The crash event was recorded by one (1) real-time panning motion picture camera and fourteen (14) high-speed motion picture cameras, The pre-test and post-test conditions were recorded by the real-time motion picture camera.

The vehicle and occupant data are summarized in Section 2. The FMVSS 208, 212, 219 (partial) and 301 data are presented in Section 3. The vehicle, occupant, and camera measurements are presented in Section 4. Appendix A contains the still photographic prints. Appendix B contains the vehicle and dummy response data. Appendix C contains the performance verification data and Appendix D contains the dummy and vehicle instrumentation calibration.

SECTION 2

SUMMARY OF FRONTAL BARRIER IMPACT TEST

TEST RESULTS SUMMARY

This flat frontal barrier test was conducted at MGA Research Corporation on October 30, 1998.

The test vehicle, a 1999 A.I. Craft GTR 2 Door, appeared to comply with the performance requirements of FMVSS 208, 212, 219 (partial), and 301 in the flat frontal barrier impact mode. The Head Injury Criteria (HIC) calculations were less than 1000, the chest resultant accelerations did not exceed 60 g's. The compressive forces transmitted through the upper legs did not exceed 2,250 pounds as measured by Part 572 E dummies seated in the front outboard designated seating positions. For each Part 572 E dummy, the chest deflection did not exceed 3.0 inches. The vehicle's restraint system met the applicable comfort and convenience requirements. The windshield periphery retention on each side of the vehicle centerline was greater than 50 percent. There was no penetration into any portion of the windshield. No fluid spilled from the vehicle's fuel system following the impact or during the static rollover test.

The test vehicle was equipped with an airbag and a Type 2 seat belt in the front outboard designated seating positions. Both dummies were restrained by the seat belts and airbags during the test. The vehicle's test weight was 3483 pounds. The vehicle's impact speed was 29.9 mph. The vehicle's maximum static crush was 20.0 inches.

The driver's HIC was 518. The driver's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 5 1.4 g's. The driver's chest maximum deflection was 1.1 inches. The driver's left and right femur maximum compressive forces were 249 pounds and 398 pounds, respectively.

The left front passenger's HIC was 541. The left front passenger's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 50.8 g's. The left front passenger's chest maximum deflection was 0.9 inches. The left front passenger's left and right femur maximum compressive forces were 325 pounds and 410 pounds, respectively.

TEST NOTES

The test vehicle was supplied to MGA Research Corporation by J.K. Motors. The rear seat had been removed, so the total unloaded delivered weight (UDW) was also supplied by J.K. Motors. MGA was informed that the restraint system labels were being printed, and were not yet installed on the test vehicle.

TABLE 1 CRASH TEST SUMMARY

Vehicle Yr/Make/Model/Body Style: 1999/A.I. Craft/GTR/2 Door

Test Type: Frontal Barrier Impact

Test Date: October 30, 1998 Time: 12:41 p.m. Temp: 70°F

Vehicle Test Weight: 3483 lbs Vehicle/Barrier Impact Angle: 0°

Impact Velocity: 29.9 mph Maximum Static Crush: 20.0 inches

Vehicle Rebound: 7.2 inches

Dummies:	Driver	Passenger
Dummy Type	Part 572E	Part 572E
Serial Number	306	307
Restraint System	Airbag and Type II seatbelt	Airbag and Type II seatbelt
No. of Data Channels	15	15

Number of Cameras: 1 Real Time

14 High Speed

Door Opening Data: Left Front: yes Left Rear: N/A

Right Front: yes Right Rear: N/A

Front Seat(s) Data:	Driver	Passenger
Seat Track Failure	0.2 in.	0 in.
Seat Back Failure	none	none

Visible Dummy Contact Points:	Driver	Passenger
Head	Airbag and headrest	Airbag and headrest
Chest	None noted	None noted
Left Knee	Column and dash	Glovebox. dash and airbag
Right Knee	Column and dash	Glovebox, dash and airbag

TABLE 2 GENERAL TEST AND VEHICLE PARAMETER DATA

Vehicle Yr/Make/Model/Body Style: 1999/A.I. Craft/GTR/2 Door

Chassis No: ECR33-109721 Body Color: White

Engine: 6 Cylinders; __C.I.D.; 2.5 liters; __CC

X Gas; -Diesel; X Turbocharged

X Longitudinal; -Transverse

Transmission: 5 Speed; X Manual; -Automatic; -Overdrive

Final Drive: -Front Wheel; X Rear Wheel; -Four Wheel

Major Option: X A/C; X P/S; X P/B; X P/wdo; X P/door locks;

-P/seats; X Tilt Wheel; -Cruise Control

Odometer Reading: 20,898 km

DATA FROM VEHICLES CERTIFICATION LABEL: None

DATA FROM TIRE PLACARD:

Recommended Tire Size: 205/55R16 88 or 89V

Recommended Cold Tire Pressure: Front 31 psi; Rear 31 psi

Tires on Vehicle: 205/55R16 89V ; Manufacturer: Bridgestone

Type of Spare Tire: Space Saver

Number of Occupants: 2 Front; 2 Rear; __3rd Seat; 4 TOTAL

Type of Front Seats: X Bucket; Bench; -Split Bench

Type of Front Seat Back: -Fixed; X Adj. With; X Lever; _Rot. Knob -Power

TABLE 2 GENERAL TEST AND VEHICLE PARAMETER DATA (Cont'd)

WEIGHT OF TEST VEHICLE AS RECEIVED (WITH MAXIMUM FLUIDS):

Right Front = 846 lbs Right Rear = 668 lbs

Left Front = 889 lbs Left Rear = 661 lbs

TOTAL FRONT WEIGHT = 1735 lbs (56.6 % of Total Vehicle Weight)

TOTAL REAR WEIGHT = 1329 lbs (43.4 % of Total Vehicle Weight)

TOTAL WEIGHT = 3064 lbs

CALCULATION FOR TARGET TEST WEIGHT:

UDW (Unloaded Delivered Weight) = 3100 lbs (Supplied by J.K. Motors)

RCLW*(Rated Cargo/Luggage Weight) = 50 lbs (Supplied by J.K. Motors)

Target Test Weight = UDW + RCLW + (2 Dummies x Dummy Weight)

Target Test Weight = 3 100 + 50 + 344 = 3494 lbs

WEIGHT OF TEST VEHICLE WITH REQUIRED DUMMIES AND CARGO WEIGHT:

Right Front = 939 lbs Right Rear = 785 lbs

Left Front = 975 lbs Left Rear = 784 lbs

TOTAL FRONT WEIGHT = 1914 lbs (55.0 % of Total Vehicle Weight)

TOTAL REAR WEIGHT = 1569 lbs (45.0 % of Total Vehicle Weight)

TOTALTEST WEIGHT = 3483 lbs

Weight of ballast secured in vehicle = 0 lbs

Vehicle components removed to meet target weight: Rear seat, spare tire, and right tail light assembly

VEHICLE ATTITUDE (all dimensions in inches):

Delivered Attitude: RF 680 LF 675 RR 680 LR 678

Test Attitude: RF 664 LF 658 RR 665 LR 659

Wheel Base: 2722 in; C.G. = 1226 in rearward of front wheel centerline

*Cargo weight for multi-purpose passenger vehicles, truck, and buses is the vehicle's rated cargo and luggage weight from the vehicle's label or 300 pounds, whichever is less.

TABLE 3 POST-IMPACT DATA

Type of Test: Frontal Barrier Impact Impact Angle: 0°

Test Date: October 30, 1998 Time: 12:41 p.m. Temperature: 70° F

Chassis No: ECR33-109721

BARRIER IMPACT VELOCITY

Required Impact Velocity Range: 28.9 to 29.9 mph

Impact Velocity: Primary = 29.9 mph; Secondary = 29.5 mph

Distance From Front Bumper to Barrier Face When

Entering Speed Trap: 51 inches

Exiting Speed Trap: 12 inches

VEHICLE STATIC CRUSH AND REBOUND (inches):

Vehicle Length:				
	Pre-test	= R 173.9	C_L 182.5	L 173.7
	Post-test	= R 165.8	C_L 163.4	L 160.9
	Crush	= R 8.1	C_L 19.1	L 12.8
	Average	= 13.3		

Distance from front of test vehicle to point of impact (rebound):

R 5.3 in C_L 9.3 in L 6.9 in

TABLE 4 ACCIDENT INVESTIGATION DIVISION DATA

Vehicle Year/Make/Model/Body Style: 1999/A.I. Craft/GTR/2 Door

Chassis No.: ECR33-109721

Test Date: October 30, 1998

Test Weight: 3483 lbs

Veh. Wheelbase: 2722 in; Front Overhang: 36.6 in.

Overall Width: 65.7 in

ACCELEROMETER DATA:

Location: As per measurements on page 2-10

Calibration Procedure: As per MGA Calibration Procedure

Linearity: >99.9% ; Integration Algorithm: Trapezoidal

COLLISION DEFORMATION CLASSIFICATION (CDC) CODE:

Impact Mode: Frontal Barrier

Crush Depth C1 = 12.8 inches

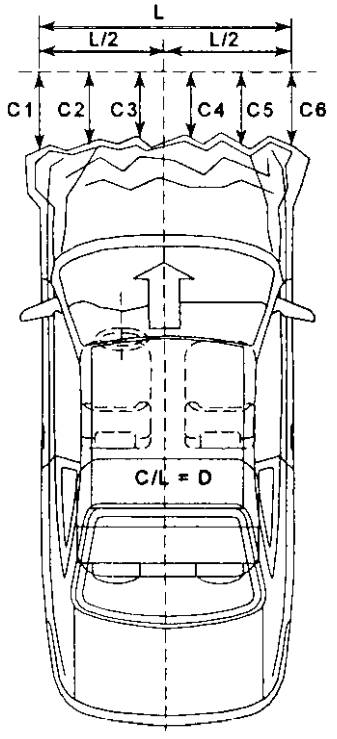
Dimensions: C2 = 16.0 inches

C3 = 17.8 inches

C4 = 20.0 inches

C5 = 15.2 inches

C6 = 8.0 inches



Midpoint of Damage:
D = Vehicle Longitudinal Centerline

Length of Damaged Region:
L = 57.1 inches

TABLE 5 POST TEST AIRBAG DATA

Vehicle Year/Make/Model/Body Style: 1999/A.I. Craft/GTR/2 Door

Test Date: October 30, 1998 ; Technician: Chris Novak

A. No of Vent Holes: Driver 2 ; Passenger 2

B. Size of Vent Holes: Driver 2.0 in. dia.; Passenger 2.5 in. dia.

C. Total Vent Area: Driver 6.3 in^2 ; Passenger 9.8 in^2

D. Deflated Airbag Length and Width Dimensions or, if Round, Diameter

Driver; Length N/A ; Width N/A ; Diameter -

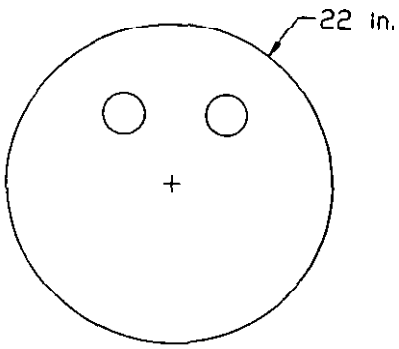
Passenger; Length - ; Width 16 in , Diameter N/A

E. Is the Airbag Tethered?

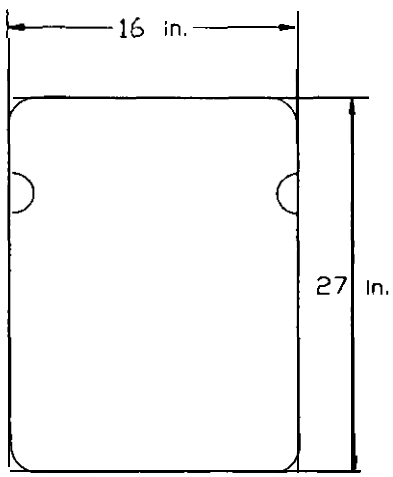
Driver; __ Yes; X No; If yes, record length of tether

Passenger; __ Yes; X No; If yes, record length of tether

Driver Airbag



Passenger Airbag



F. Part Numbers and Manufacture Name of Airbag and Gas Generator

Driver; Mfr N/A ; Airbag RB761982230026C

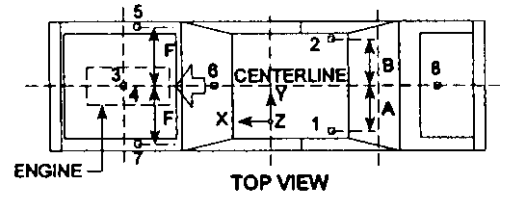
Passenge Mfr N/A :, Airbag IG1P6965310012

TABLE 6 VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

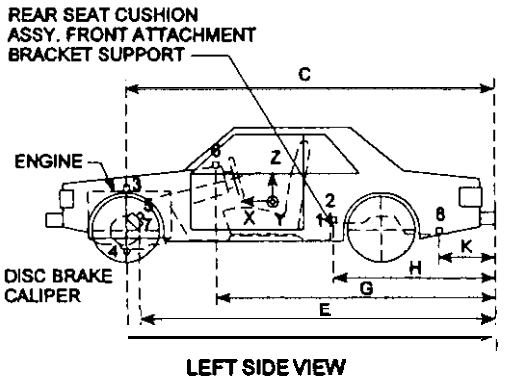
Vehicle Year/Make/Mod&Body Style:

1999/A.I. Craft/GTR/2 Door

Test Date: October 30, 1998



TOP VIEW



LEFT SIDE VIEW

ACCELEROMETER LOCATION (inches)		
	PRE-TEST	POST-TEST
A	25.5	25.5
B	25.5	25.5
C	149.9	144.0
D	148.8	145.1
E	150.2	146.7
F	25.4	25.4
G	119.9	117.7
H	66.5	66.1
K	37.2	*

ACCELEROMETER DATA SUMMARY

No.	DESCRIPTION	MAXIMUM (g's)	TIME (mscc)	MINIMUM (g's)	TIME (mscc)
1	Left Rear Seat Crossmember	2.8	126	-41.1	45
2	Right Rear Seat Crossmember	3.3	125	-36.9	45
3	Top of Engine Block	20.0	48	-115.7	37
4	Bottom of Engine	12.5	49	-100.6	36
5	Right Disc Brake Caliper	15.7	88	-63.7	60
6	Instrument Panel	3.8	35	-40.1	47
7	Left Disc Brake Caliper	20.0	66	-65.1	25
8	Trunk	27.5	50	-36.9	54

* Accelerometer mount came loose during the test.

SECTION 3
SUMMARY OF RESULTS FOR FMVSS 208 212, 219 (PARTIAL), AND 301

TABLE 7 FMVSS 208 OCCUPANT INJURY CRITERIA

Veh. Yr./Make/Model/Body Style: 1999/A.I. Craft/GTR/2 Door

Test Date: October 30, 1998

MAXIMUM ACCELERATION VALUES: (g's)	DRIVER DUMMY #306	PASSENGER DUMMY #307
Head Channel X	-58.0	-44.7
Head Channel Y	-8.9	-11.5
Head Channel Z	33.9	36.9
HEAD RESULTANT	62.4	56.5
Chest Channel X	-51.8	-51.7
Chest Channel Y	4.5	9.8
Chest Channel Z	15.2	11.6
CHEST RESULTANT	53.1	52.0

HEAD INJURY CRITERIA (HIC) VALUES:

HIC	518	541
t_1 = (msec)	66.9	65.6
t_2 = (msec)	102.9	101.6

[The maximum time interval from t_1 to t_2 is 36 milliseconds.]

CHEST INJURY CRITERIA (CLIP) VALUES: (g's)

CLIP	51.4	50.8
t^1 = (msec)	58.7	63.8
t^2 = (msec)	61.8	66.9
CHEST DEFLECTION (in)	1.1	0.9

MAX. COMPRESSIVE FEMUR FORCES: (lbs)

Left Side	249	325
Right Side	398	410

TABLE 8 DUMMY KINEMATIC SUMMARY

DRIVER DUMMY

Upon impact, the driver dummy translated forward on the seat impacting both knees into the instrument panel and column. The dummy's head and chest impacted the airbag. The driver dummy was restrained by the seatbelt and airbag. The dummy rebounded rearward into the seat back with the dummy's head contacting the head restraint. The driver dummy came to rest in the seat.

LEFT FRONT PASSENGER DUMMY

Upon impact, the left front passenger dummy translated forward on the seat impacting both knees into the dashboard and glovebox. The dummy's head and chest impacted the airbag. The left front passenger dummy was restrained by the seatbelt and airbag. The dummy rebounded rearward into the seat back with the dummy's head contacting the head restraint. The left front passenger dummy came to rest in the seat.

TABLE 9

FMVSS 208 SEAT BELT COMFORT AND CONVENIENCE TEST SUMMARY

Vehicle Year/Make/Model/Body Style: 1999/A.I. Craft/GTR/2 Door

Date of Comfort/Convenience Check: October 30, 1998

Technician Performing Check: Al Chalmers

Automatic seat belts installed in any vehicle, other than a walk-in van-type vehicle which has a gross vehicle weight rating of 10,000 pounds or less, and is manufactured on or after September 1, 1986, shall meet the requirements for convenience hooks, webbing tension relieving devices, and belt contact force.

Manual seat belts installed for compliance with this standard in front outboard designated seating positions of any vehicle, other than a walk-in van-type vehicle which has a gross vehicle rating of 10,000 pounds or less, and is manufactured on or after September 1, 1989, shall meet the requirements for belt contact force, plate access, retraction and seat belt guides, and hardware.

VEHICLE EQUIPMENT:

The vehicle's front outboard seating positions were equipped with manual Type 2 seat belts which must comply with the dynamic test requirements of S5.1; requirements for webbing tension-relieving devices (S7.4.2), belt contact force (S7.4.3), latchplate access (S7.4.4), retraction (S7.4.5), and seat belt guides and hardware (S7.4.6) apply.

CONVENIENCE HOOKS (S7.4.1):

Not applicable, the vehicle was not equipped with automatic seat belts.

WEBBING TENSION-RELIEVING DEVICE (S7.4.2)

The seat belt assembly on the front outboard seating positions did not have webbing tension-relieving devices.

TABLE 9 (Cont'd)

FMVSS 208 SEAT BELT COMFORT AND CONVENIENCE TEST SUMMARY

BELT CONTACT FORCE (S7.4.3)

Vehicle Year/Make/Model/Body Style: 1999/A.I. Craft/GTR/2 Door

Technician: Al Chalmers Date: October 30, 1998

Designated Seating Position Tested: Right Front

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

1.1 Does the vehicle incorporate a webbing tension-relieving device?

( ) Yes go to latchplate access
(X) No - continue with this checksheet

1.2 Adjustable seats are in adjustment position midway between the forward most and rearmost positions. If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used. (S8.1.2)

(X) Check
( ) N/A

1.3 If separately adjustable in a vertical direction, the seats are at the lowest position.

(X) Check
( ) N/A

1.4 Place adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer.

(X) Check
( ) N/A

1.5 Place any adjustable anchorages at the manufacturer's nominal design position for a 50th percentile adult male (50M) occupant. This information will be furnished by the COTR.

( ) Check
(X) N/A

TABLE 9 (Cont'd)
FMVSS 208 SEAT BELT COMFORT AND CONVENIENCE TEST SUMMARY

1.6 Place each adjustable head restraint in its highest adjustment position.
(X) Check
( ) N/A

1.7 Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position. (S8.1.3)
(X) Check
( ) N/A

1.8 Position the test dummies according to dummy position placement instructions in Appendix B.
(X) Check

1.9 Fasten the seat belt latch. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point, pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Measure the contact force exerted by the belt webbing on the dummy's chest. Contact the COTR if the contact force exceeds 0.7 pounds.
Contact Force 0.2 lb. (X) 0.0 to 0.7 pounds - Pass
( ) greater than 0.7 pounds - FAIL*

* If the seat belts are voluntarily installed by the manufacturer they do not have to comply.

BELT CONTACT FORCE (S7.4.3)

Designated Seating Position Tested: Left Front

1.1 Does the vehicle incorporate a webbing tension-relieving device?
( ) Yes - go to latchplate access
(X) No - continue with this checksheet

1.2 Adjustable seats are in adjustment position midway between the forward most and rearmost positions. If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used. (S8.1.2)
(X) Check
( ) N/A

TABLE 9 (Cont'd)
FMVSS 208 SEAT BELT COMFORT AND CONVENIENCE TEST SUMMARY

1.3 If separately adjustable in a vertical direction, the seats are at the lowest position.
( ) Check
(X) N/A

1.4 Place adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer.
(X) Check
( ) N/A

1.5 Place any adjustable anchorages at the manufacturer's nominal design position for a 50th percentile adult male (50M) occupant. This information will be furnished by the COTR.
( ) Check
(X) N/A

1.6 Place each adjustable head restraint in its highest adjustment position.
(X) Check
( ) N/A

1.7 Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position. (S8.1.3)
( ) Check
(X) N/A

1.8 Position the test dummies according to dummy position placement instructions in Appendix B.
(X) Check

1.9 Fasten the seat belt latch. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point, pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Measure the contact force exerted by the belt webbing on the dummy's chest, Contact the COTR if the contact force exceeds 0.7 pounds.
Contact Force 0.2 lb. (X) 0.0 to 0.7 pounds Pass
( ) greater than 0.7 pounds - FALL*

* If the seat belts are voluntarily installed by the manufacturer they do not have to comply.

TABLE 9 (Cont'd)
FMVSS 208 SEAT BELT COMFORT AND CONVENIENCE TEST SUMMARY

LATCHPLATE ACCESS (S7.4.4)

Vehicle Year/Make/Model/Body Style: 1999/A.I. Craft/GTR/2 Door

Technician: Al Chalmers Date: October 30, 1998

Test all front outboard seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt

(X) Not Applicable
This vehicle is a passenger car which is not applicable to this requirement.

TABLE 9 (Cont'd)
FMVSS 208 SEAT BELT COMFORT AND CONVENIENCE TEST SUMMARY

RETRACTION (S7.4.5):

Vehicle Year/Make/Model/Body Style: 1999/A.I. Craft/GTR/2 Door

Technician: Al Chalmers Date: October 30, 1998

Test all front outboard seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt

(X) Not Applicable
This vehicle is a passenger car which is not applicable to this requirement.

TABLE 9 (Cont'd)
FMVSS 208 SEAT BELT COMFORT AND CONVENIENCE TEST SUMMARY

SEAT BELT GUIDES AND HARDWARE (S7.4.6)

Vehicle Year/Make/Model/Body Style: 1999/A.I. Craft/GTR/2 Door

Technician: Al Chalmers Date: October 30, 1998

Designated Seating Position Tested: Right Front

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

The requirements for accessibility **DO NOT APPLY** to:

A. Seats whose seat cushions are movable so that the seat back serves a function other than seating (S7.4.6.1(b))

B. Seats which are removable.

C. Seats which are movable so that the space formerly occupied by the seat can be used for a secondary function.

If the seats in this vehicle are different than the criteria above determine the following:

4.1 Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back?

( )Yes - Go to 4.2.
(X) No - this form is complete

4.2 Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)?

( )Yes - Pass
( ) **No - FAIL**

TABLE 9 (Cont'd)
FMVSS 208 SEAT BELT COMFORT AND CONVENIENCE TEST SUMMARY

4.3 Are the remaining two seat belt parts accessible under normal conditions?

( )Yes - Pass
( ) **No - FAIL**

4.4 The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the following events occur in order:

(A) The belt is completely retracted or, if the belt is nonretractable, the belt is unlatched.( ) Check

(B) The seat is moved to any position to which it is designed to be adjusted.
( ) Check

(C) The seat back, if foldable, is folded forward as far as possible and then moved backward into position.
( ) Check

( )Yes Pass
( ) **No - FAIL**

4.5 Is the inboard receptacle end of the seat belt assembly, installed in the outboard designated seating position, accessible with the center arm rest in any position to which it can be adjusted (without moving the armrest)?

( ) Yes - Pass
( ) **No - FAIL**

Designated Seating Position Tested: Left Front

The requirements for accessibility **DO NOT APPLY** to:

A. Seats whose seat cushions are movable so that the seat back serves a function other than seating (S7.4.6.1(b))

B. Seats which are removable.

C. Seats which are movable so that the space formerly occupied by the seat can be used for a secondary function.

TABLE 9 (Cont'd)
FMVSS 208 SEAT BELT COMFORT AND CONVENIENCE TEST SUMMARY

If the seats in this vehicle are different than the criteria above determine the following:

4.1 Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back?

( )Yes - Go to 4.2.
(X) No - this form is complete

4.2 Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)?

( )Yes - Pass
( ) **No - FAIL**

4.3 Are the remaining two seat belt parts accessible under normal conditions?

( )Yes - Pass
( ) **No - FAIL**

4.4 The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the following events occur in order:

(A) The belt is completely retracted or, if the belt is nonretractable, the belt is unlatched.( ) Check

(B) The seat is moved to any position to which it is designed to be adjusted.
( ) Check

(C) The seat back, if foldable, is folded forward as far as possible and then moved backward into position.
( ) Check

( )Yes - Pass
( ) **No - FAIL**

4.5 Is the inboard receptacle end of the seat belt assembly, installed in the outboard designated seating position, accessible with the center arm rest in any position to which it can be adjusted (without moving the armrest)?

( ) Yes Pass
( ) **No - FAIL**

TABLE 9 (Cont'd)
FMVSS 208 SEAT BELT COMFORT AND CONVENIENCE TEST SUMMARY

Designated Seating Position Tested: Rear Seat Removed

The requirements for accessibility **DO NOT APPLY** to:

A. Seats whose seat cushions are movable so that the seat back serves a function other than seating (S7.4.6.1(b))

B. Seats which are removable.

C. Seats which are movable so that the space formerly occupied by the seat can be used for a secondary function.

If the seats in this vehicle are different than the criteria above determine the following:

4.1 Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back?

( )Yes - Go to 4.2.
( ) No - this form is complete

4.2 Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)?

( )Yes - Pass
( ) **No - FAIL**

4.3 Are the remaining two seat belt parts accessible under normal conditions?

( )Yes - Pass
( ) **No - FAIL**

4.4 The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat 'when the following events occur in order:

(A) The belt is completely retracted or, if the belt is nonretractable, the belt is unlatched.( ) Check

(B) The seat is moved to any position to which it is designed to be adjusted.
( ) Check

TABLE 9 (Cont'd)
FMVSS 208 SEAT BELT COMFORT AND CONVENIENCE TEST SUMMARY

(C) The seat back, if foldable, is folded forward as far as possible and then moved backward into position.

( ) Check
( )Yes - Pass
( ) No - FAIL

4.5 Is the inboard receptacle end of the seat belt assembly, installed in the outboard designated seating position, accessible with the center arm rest in any position to which it can be adjusted (without moving the armrest)?

( ) Yes - Pass
( ) No - FAIL

TABLE 10 FMVSS 208 EQUIPMENT DATA

FMVSS 208 SEAT BELT WARNING SYSTEM CHECK

Vehicle Year/Make/Model/Body Style: 1999/A.I. Craft/GTR/2 Door
Technician: Al Chalmers Date: October 30, 1998

Complete the following to determine which seat belt warning system option (S7.3(a)(1) or S7.3 (a)(2)) is used. (Manufacturers may use either option.)

A. With occupant in driver's position and lap belt in stowed position and ignition switch placed in "Start/On" position:

A.1 S7.3(a)(1)

Time duration of audible warning signal = 0 seconds
(4 to 8 seconds)

Time duration of reminder light operation = > 60 seconds
(no less than 60 seconds)

A.2 S7.3(a)(2)

Time duration of audible warning signal = ___ seconds
(4 to 8 seconds)(see 49 USCS @ 30124)

Time duration of reminder light operation = ___ seconds
(4 to 8 seconds)

B. With occupant in driver's position and lap belt in use and ignition switch placed in "Start/On" position:

B.1 S7.3(a)(1)

Time duration of audible warning signal = 0 seconds
(audible warning not required)

Time duration of reminder light operation = 0 seconds
(reminder light not required)

B.2 S7.3(a)(2)

Time duration of audible warning signal = ___ seconds
(audible warning not required)

Time duration of reminder light operation = ___ seconds
(4 to 8 seconds)

A. Note wording of visual warning: ( )Fasten seat belt ( )Fasten Belt
(X)Symbol 101

TABLE 10 FMVSS 208 EQUIPMENT DATA (Cont'd)

FMVSS 208 READINESS INDICATOR (S4.5.2)

Vehicle Year/Make/Model/Body Style: 1999/A.I. Craft/GTR/2 Door

Technician: Al Chalmers Date: October 30, 1998

An occupant restraint system that deploys in the event of a crash shall have a monitoring system with a readiness indicator. A totally mechanical system is exempt from this requirement. (11/8/94 legal interpretation)

1. Is the system totally mechanical? ( )Yes (X)No
   (If YES this Data Sheet is complete.)

2. Describe the location of the readiness indicator: Upper left instrument cluster

3. Is the readiness indicator clearly visible to the driver?
   (X)Yes-Pass ( )**No-FAIL**

4. Is a list of the elements in the occupant restraint system, being monitored by the readiness indicator, provided?
   ( )Yes-Pass (X)**No-FAIL**

TABLE 10 FMVSS 208 EQUIPMENT DATA (Cont'd)

FMVSS 208 REAR OUTBOARD SEATING POSITION SEAT BELTS

Vehicle Year/Make/Model/Body Style: 1999/A.I. Craft/GTR/2 Door

Technician: Al Chalmers Date: October 30, 1998

1. Do all rear outboard seating positions have type 2 seat belts?

(X)Yes ( )No

If NO, describe the seat belt installed, the seat location, and any other information about the seat that would explain why a type 2 belt was not installed.

TABLE 11 LAP BELT LOCKABILITY

Passenger cars, trucks, buses, and multipurpose passenger vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)

Complete one of these forms for each designated seating position with forward-facing seats, other than the driver's seat, or seats that can be adjusted to forward-facing **and** that has seat belt retractors that are not automatic locking retractors. (S7.1.1.5(c))

Vehicle Year/Make/Model/Body Style: 1999/A.J. Craft/GTR/2 Door
Technician: Al Chalmers Date: October 30, 1998

Designated Seating Position Tested: Left Front

1. Record the seating position. 11 of 20
(Any position is acceptable.)

2. Buckle the seat belt.

3. Complete any procedures recommended in the vehicle owner's manual to activate any locking feature.

4. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle.
(X) Yes-Pass ( ) **No-FAIL**

5. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing.
(X)Yes-Pass ( ) **No-FAIL**

6. Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?
( )Yes, go to 6.1 (X) No, go to 7.

6.1 If yes, does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system.
( )Yes-Pass ( ) **No-FAIL**

7. Locate a reference point A on the seat belt buckle.

TABLE 11 LAP BELT LOCKABILITY (Cont'd)

8. Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly.

9. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system.

10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly.

Measured distance between A and B is 34 inches.

11. Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing.

12. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal.

The measured force application angle = 10 degrees.

WEBBING TENSION PULL DEVICE

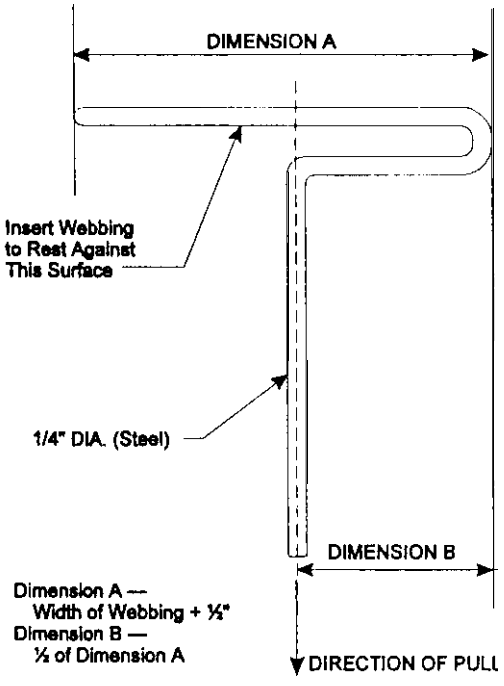


TABLE 11 LAP BELT LOCKABILITY (Cont'd)

13. The length between points A and B along the longitudinal centerline of the webbing while the preload is being applied.

Measured distance between A and B is 28 inches.

14. Increase the load to 50 pounds at a rate of no more than 50 pounds per second) Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing.

Record onset rate: 25 lb/sec.

Record the distance between points A and B: 28 3/4 inches

15. Subtract the measurement in 13 from the measurement in 14. Is the difference 2 inches or less?
14-13 = 3/4 inches (X)Yes-Pass ( ) No-FAIL

16. Subtract the measurement in 14 from the measurement in 10. Is the difference 3 inches or more?
10-14 = 5 1/4 inches (X)Yes-Pass ( ) No-FAIL

TABLE 11 LAP BELT LOCKABILITY (Cont'd)

Vehicle Year/Make/Model/Body Style: 1999/A.J. Craft/GTR/2 Door
Technician: Al Chalmers Date: October 30, 1998

Designated Seating Position Tested: Left Rear

1. Record the seating position. Rear Seat Removed
(Any position is acceptable.)

2. Buckle the seat belt.

3. Complete any procedures recommended in the vehicle owner's manual to activate any locking feature.

4. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle.
(X)Yes-Pass ( ) **No-FAIL**

5. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing.
(X)Yes-Pass ( ) **No-FAIL**

6. Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?
( )Yes, go to 6.1 (X) No, go to 7.

6.1 If yes, does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system.
( )Yes-Pass ( ) **No-FAIL**

7. Locate a reference point A on the seat belt buckle.

TABLE 11 LAP BELT LOCKABILITY (Cont'd)

8. Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly.

9. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system.

10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly.

Measured distance between A and B is 29 inches.

11. Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing.

12. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal.

The measured force application angle = 10 degrees.

WEBBING TENSION PULL DEVICE

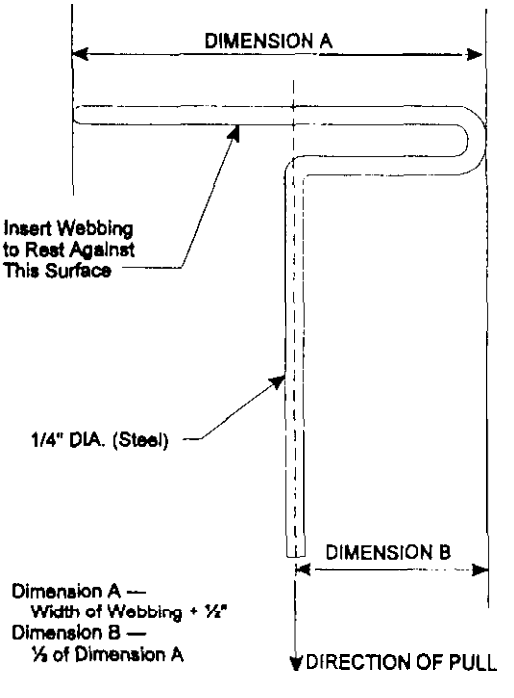


TABLE 11 LAP BELT LOCKABILITY (Cont'd)

13. The length between points A and B along the longitudinal centerline of the webbing while the preload is being applied.
Measured distance between A and B is 23 inches.

14. Increase the load to 50 pounds at a rate of no more than 50 pounds per second, Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing.
Record onset rate: 25 lb/sec.
Record the distance between points A and B: 23 7/8 inches

15. Subtract the measurement in 13 from the measurement in 14. Is the difference 2 inches or less?
14-13 = 7/8 inches (X)Yes-Pass ( ) **No-FAIL**

16. Subtract the measurement in 14 from the measurement in 10. Is the difference 3 inches or more?
10-14 = 5 1/8 inches (X)Yes-Pass ( ) **No-FAIL**

TABLE 1 1 LAP BELT LOCKABILITY (Cont'd)

Vehicle Year/Make/Model/Body Style: 1999/A.I. Craft/GTR/2 Door
Technician: Al Chalmers Date: October 30, 1998

Designated Seating Position Tested: Right Rear

1. Record the seating position. Rear Seat Removed
(Any position is acceptable.)

2. Buckle the seat belt.

3. Complete any procedures recommended in the vehicle owner's manual to activate any locking feature.

4. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle.
(X)Yes-Pass ( ) No-FAIL

5. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing.
(X)Yes-Pass ( ) No-FAIL

6. Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?
( )Yes, go to 6.1 (X) No, go to 7.

6.1 If yes, does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system.
( )Yes-Pass ( ) No-FAIL

7. Locate a reference point A on the seat belt buckle.

TABLE 11 LAP BELT LOCKABILITY (Cont'd)

8. Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly.

9. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system.

10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly.

Measured distance between A and B is 3 1 inches.

11. Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing.

12. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal.

The measured force application angle = 10 degrees.

WEBBING TENSION PULL DEVICE

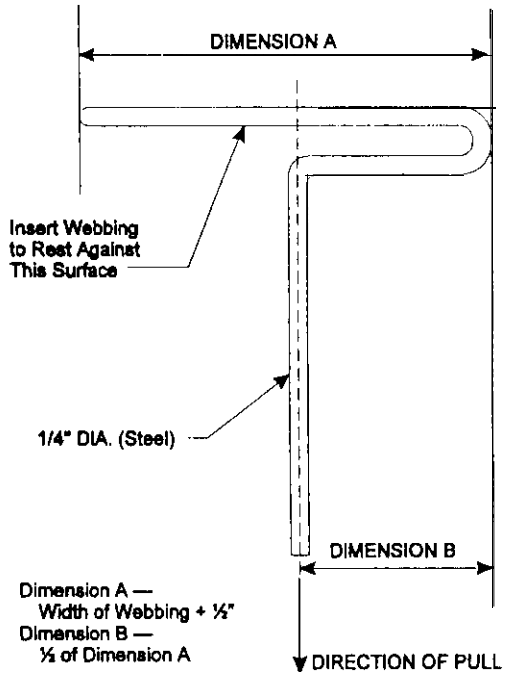


TABLE 11 LAP BELT LOCKABILITY (Cont'd)

13. The length between points A and B along the longitudinal centerline of the webbing while the preload is being applied.

Measured distance between A and B is 25 1/4 inches.

14. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing.

Record onset rate: 25 lb/sec.

Record the distance between points A and B: 25 3/4 inches

15. Subtract the measurement in 13 from the measurement in 14. Is the difference 2 inches or less?

14-13 = ½ inches (X)Yes-Pass ( ) No-FAIL

16. Subtract the measurement in 14 from the measurement in 10. Is the difference 3 inches or more?

10-14 = 5 1/4 inches (X)Yes-Pass ( ) No-FAIL

TABLE 12 AIR BAG LABELS

Vehicle Year/Make/Model/Body Style: 1999/A.I. Craft/GTR/2 Door

Technician: Al Chalmers Date: October 30, 1998

This section could not be completed because no airbag labels were fixed to the vehicle and an owner's manual was not supplied.

1. Air bag maintenance label and owner's manual instructions:

1.1. Does the manufacturer recommend periodic maintenance or replacement of the airbag?( )Yes, go to 1.2 ( ) No, go to 2

1.2. Does the vehicle have a maintenance or replacement label?

( )Yes-Pass ( ) **No-FAIL**

1.3. Does the label contain one of the following?

( )Yes-Pass ( ) **No-FAIL**

( ) Schedule on label specifies month and year

( ) Schedule on label specifies vehicle mileage

( ) Schedule on label specifies interval measured from date on certification label

1.4. Is the label permanently affixed within the passenger compartment?

( )Yes-Pass ( ) **No-FAIL**

1.5. Is the label lettered in English?

( )Yes-Pass ( ) **No-FAIL**

1.6. Is the label in block capitals and numerals?

( )Yes-Pass ( ) **No-FAIL**

1.7. Are the letters and numerals at least 3/32 inches high?

( )Yes-Pass ( ) **No-FAIL**

1.8. Does the owner's manual set forth the recommended schedule for maintenance or replacement? ( )Yes-Pass ( ) **No-FAIL**

2. Does the owner's manual:

2.1 Include a description of the vehicle's airbag system in an easily understandable format?

( )Yes-Pass ( ) **No-FAIL**

2.2 Include a statement that the vehicle is equipped with an airbag and a lap/shoulder belt at the front outboard seating positions?

( )Yes-Pass ( ) **No-FAIL**

TABLE 12 AIR BAG LABELS (Cont'd)

2.3 Include a statement that the air bag is a supplemental restraint at the front outboard seating positions?

( )Yes-Pass ( ) **No-FAIL**

2.4 Emphasize that all occupants, including the driver, should always wear their seat belts whether or not an airbag is also provided at their seating positions to minimize the risk of severe injury or death in the event of a crash?

( )Yes-Pass ( ) **No-FAIL**

2.5 Provide any necessary precautions regarding the proper positioning of occupants, including children, at seating positions equipped with air bags to insure maximum safety protection for those occupants?

( )Yes-Pass ( ) **No-FAIL**

2.6 Explain that no objects should be placed over or near the air bag on the steering wheel or on the instrument panel, because any such objects could cause harm if the vehicle is in a crash severe enough to cause the air bag to inflate?

( )Yes-Pass ( ) **No-FAIL**

3. Does the vehicle:

3.1. Provide an automatic means to ensure that the airbag does not deploy when a child seat or child with a total mass of 30 kg or less is present on the front outboard passenger?

( )Yes ( ) No

3.2. Incorporate sensors, other than or in addition to weight sensors, which automatically prevent the passenger air bag from deploying in situations in which is might have an adverse effect on infants in rear-facing child seats, and unbelted or improperly belted children? ( )Yes ( ) No

3.3. have a passenger air bag designed to deploy in a manner that does not create a risk of serious injury to infants in rear-facing child seats, and unbelted or improperly belted children? ( )Yes ( ) No

TABLE 12 AIR BAG LABELS (Cont'd)

If yes to 3.1, or 3.2, or 3.3, the vehicle is not required to have a sunvisor warning label, an airbag alert label or a label on the dash and this check sheet is complete. If no to 3.1, 3.2, and 3.3, go to 4.

4. Sun Visor Warning Label

4.1. Is the label permanently affixed (may be permanent marking or molding) to either side of the sunvisor at each front outboard seating position with an airbag?

Driver Side ( )Yes-Pass ( ) **No-FAIL**

Passenger Side - ( )Yes-Pass ( ) **No-FAIL**

4.2. Does the label conform in content (vehicles without back seats may omit the statement: "The back seat is the safest place for children.") to either label shown on the next page as appropriate at each front outboard seating position with an air bag?

4.2.1 **Dual air bags:** ( ) Not Applicable

Driver Side - ( )Yes ( ) **No-FAIL**

Passenger Side ( )Yes ( ) **No-FAIL**

4.2.2 **Vehicle with driver air bag ONLY - either 4.2.1 or 4.2.2 is applicable, not both.**

4.2.2.1 Does the label conform in content to either label shown on the following page as appropriate?

( ) Not Applicable

Driver Side ( )Yes-Pass ( ) **No-FAIL**

4.2.2.2 Does the label conform in content to the first label shown on the following page where the label can be modified to omit the pictogram and the message text may read:

TABLE 12 AIR BAG LABELS (Cont'd)

DEATH or SERIOUS INJURY can occur.

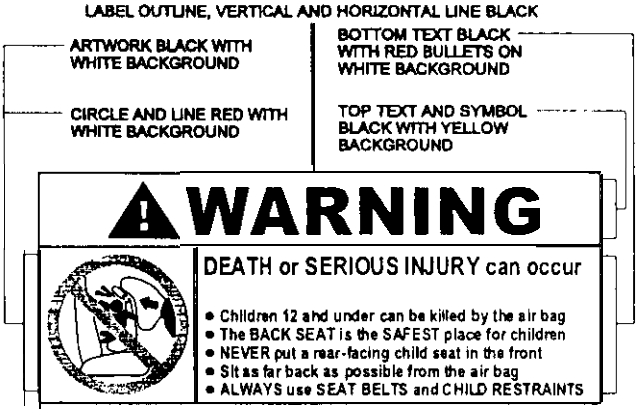
- Sit as far back as possible from the air bag.
- ALWAYS use SEAT BELTS and CHILD RESTRAINTS
- The BACK SEAT is the SAFEST place for children.

( ) Not Applicable

Driver Side - ( )Yes-Pass ( ) **No-FAIL**

SUN VISOR LABEL VISIBLE WHEN VISOR IS IN DOWN POSITION

LABEL OUTLINE, VERTICAL AND HORIZONTAL LINE BLACK



SUN VISOR LABEL VISIBLE WHEN VISOR IS IN DOWN POSITION

LABEL OUTLINE, VERTICAL AND HORIZONTAL LINE BLACK

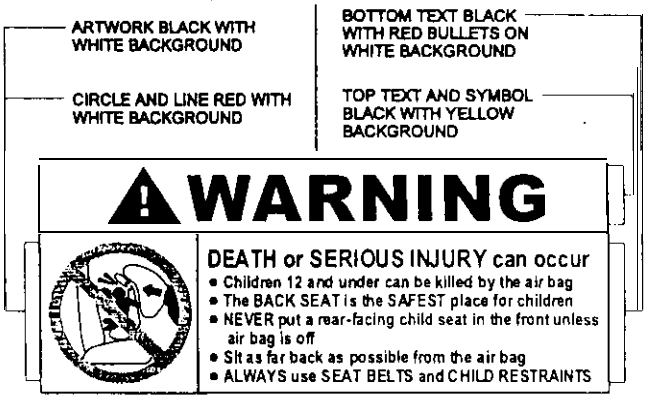


TABLE 12 AIR BAG LABELS (Cont'd)

4.3 Is the label heading area yellow with the word "warning" and the alert symbol in black?

Driver Side - ( )Yes-Pass ( ) **No-FAIL**

Passenger Side - ( )Yes-Pass ( ) **No-FAIL**

4.4 Is the message white with black text?

Driver Side - ( )Yes-Pass ( ) **No-FAIL**

Passenger Side - ( )Yes-Pass ( ) **No-FAIL**

4.5 Is the message area at least 30 cm^2? Actual message area: ____ cm^2

Driver Side - ( )Yes-Pass ( ) **No-FAIL**

Passenger Side - ( )Yes-Pass ( ) **No-FAIL**

4.6 Is the pictogram black with a red circle and slash on a white background?

For vehicles with driver side air bag ONLY ( ) Not Applicable

Driver Side - ( )Yes-Pass ( ) **No-FAIL**

Passenger Side - ( )Yes-Pass ( ) **No-FAIL**

4.7 Is the pictogram at least 30 mm in diameter? Actual diameter: ____ mm

For vehicles with driver side air bag ONLY ( ) Not Applicable

Driver Side - ( )Yes-Pass ( ) **No-FAIL**

Passenger Side - ( )Yes-Pass ( ) **No-FAIL**

4.8 Is the same side of the sun visor to which the sun visor label is affixed free of other information with the exception of an air bag maintenance label?

Driver Side - ( )Yes-Pass ( ) **No-FAIL**

Passenger Side - ( )Yes-Pass ( ) **No-FAIL**

4.9 Is the sun visor free of other information about air bags or the need to wear seat belts with the exception of the air bag alert label or the utility vehicle label?

Driver Side - ( )Yes-Pass ( ) **No-FAIL**

Passenger Side - ( )Yes-Pass ( ) **No-FAIL**

TABLE 12 AIR BAG LABELS (Cont'd)

5. Air Bag Alert Label

5.1 Is the Sun Visor Warning Label visible when the sunvisor is in the stowed position?

Driver Side - ( )Yes, go to 6 ( ) No

Passenger Side - ( )No air bag ( )Yes ( ) No

5.2 Does the label conform in content to the label shown below?

Driver Side - ( )Yes ( ) **No-FAIL**

Passenger Side - ( )No air bag ( )Yes-Pass ( ) **No-FAIL**

5.3 Is the message area black with yellow text?

Driver Side - ( )Yes-Pass ( ) **No-FAIL**

Passenger Side ( )No air bag ( )Yes-Pass ( ) **No-FAIL**

5.4 Is the message area at least 20 cm^2? Actual message area: _____ cm^2

Driver Side ( )Yes-Pass ( ) **No-FAIL**

Passenger Side - ( )No air bag ( )Yes-Pass ( ) **No-FAIL**

5.5 Is the pictogram black with a red circle and slash on a white background?

For vehicles with driver side air bag ONLY ( ) Not Applicable

( )Yes-Pass ( ) **No-FAIL**

TABLE 12 AIR BAG LABELS (Cont'd)

5.6 Is the pictogram at least 20 mm in diameter? Actual diameter _____ mm

For vehicles with driver side air bag ONLY ( ) Not Applicable

( )Yes-Pass ( ) No-FAIL

6. Label On the Dash

6.1 Does the vehicle have a passenger side air bag?

( )Yes ( ) No, check sheet is complete.

6.2 Does the vehicle have a label on the dash or steering wheel hub?

( )Yes-Pass ( ) No-FAIL

6.3 Does the label conform in content (vehicles without back seats may omit the statement: "The back seat is the safest place for children 12 and under." to the label shown below.( )Yes-Pass ( ) No-FAIL

6.4 Is the heading area yellow with the word "warning" and the alert symbol in black?

( )Yes-Pass ( ) No-FAIL

TABLE 12 AIR BAG LABELS (Cont'd)

6.5 Is the message white with black text? ( )Yes-Pass ( ) No-FAIL

6.6 Is the message area at least 30 cm^2? Actual message area: _____ cm'

( )Yes-Pass ( ) No-FAIL

REMOVABLE LABEL ON DASH

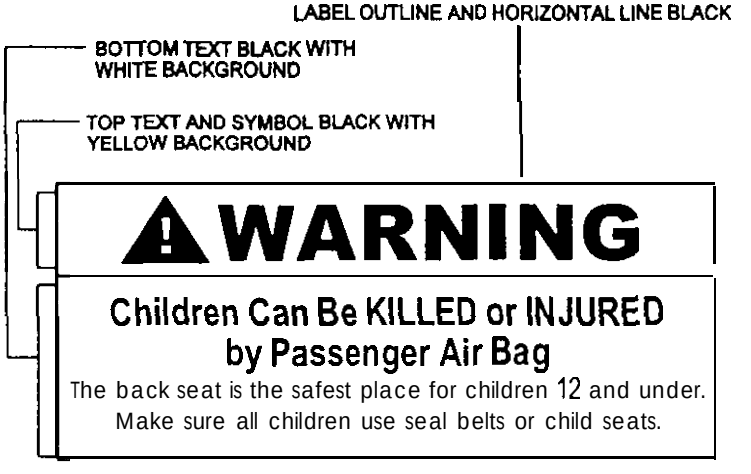


TABLE 13 FMVSS 212, "WINDSHIELD MOUNTING". DATA SUMMARY

Vehicle Year/Make/Model/Body Style: 1999/A.I. Craft/GTR/2 Door

Test Date: October 30, 1998

DETAILS OF WINDSHIELD MOUNTING SUCH AS RETENTION METHOD. TRIM TYPE. ETC.:

Rubber trim with glue retention

CLIPS OR BRACKETS USED TO RETAIN WINDSHIELD: None

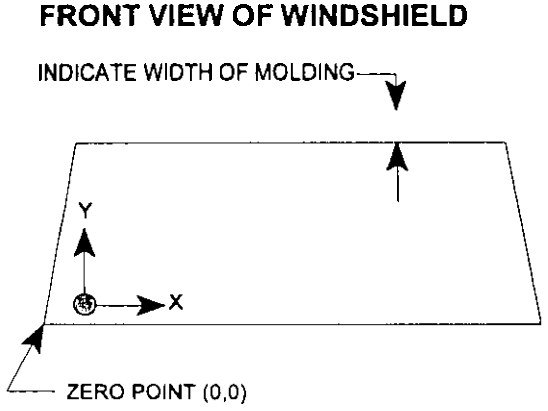
FMVSS 212 REQUIREMENTS: The post-test periphery retention amount must be at least 75% of the pre-test periphery measurement for vehicles NOT equipped with automatic restraints, and 50% for each side of windshield for vehicles equipped with automatic restraint systems for front occupants.

FMVSS 212 TEST DATA:

	WINDSHIELD PERIPHERY (inches)		
	PRETEST	POST-TEST	PERCENT RETENTION
RIGHT SIDE	1975	1975	100%
LEFT SIDE	1966	1966	100%
TOTAL	3941	3941	100%

Pre-Test Windshield Mounting Material Temperature: 70° F

Width of Molding: 0.6 inches



FAILURE DETAILS: None

TABLE 14 FMVSS 219, "WINDSHIELD ZONE INTRUSION". DATA SUMMARY

Vehicle Year/Make/Model/Body Style: 1999/A.I. Craft/GTR/2 Door

Test Date: October 30, 1998

PROTECTED ZONE LOWER EDGE REQUIREMENT:

The lower edge of the protected zone is determined by placing a 6.5" dia. rigid sphere weighing 15 pounds in a position such that it simultaneously contacts the inner surface of the windshield and the top surface of the instrument panel including padding. Draw the locus of points on the inner surface of the windshield contacted by the sphere across the width of the instrument panel. From the outermost contact points, extend the locus line horizontally to the edges of the windshield, and then draw a line on the inner surface of the windshield below and ½" distant from the locus line. The LOWER EDGE OF THE PROTECTED ZONE is the longitudinal projection onto the outer surface of the windshield of this line.

WINDSHIELD MEASUREMENTS:

A= 43.7 in

B= 16.3 in

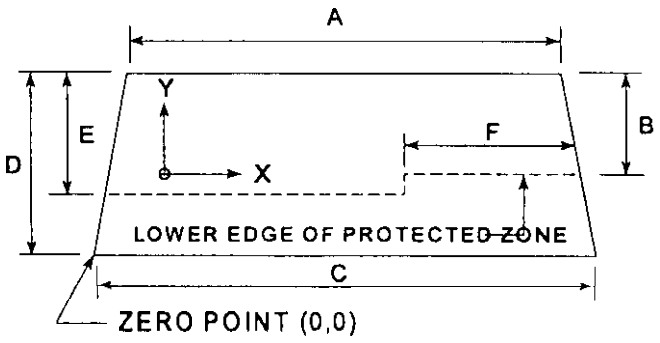
C= 59.4 in

D= 26.2 in

E= 17.9 in

F= 23.8 in

FRONT VIEW OF WINDSHIELD



AREAS OF WINDSHIELD TEMPLATE PENETRATION GREATER THAN 1/4 IN:

None

AREAS OF WINDSHIELD PENETRATION. BELOW THE PROTECTED ZONE. THROUGH THE INNER SURFACE OF THE WINDSHIELD:

None

TABLE 15 FUEL SYSTEM DATA

Vehicle Year/Make/Model/Body Style: 1999/A.I. Craft/GTR/2 Door

Test Date: October 30, 1998

Fuel System Capacity from Owner's Manual = N/A gallons

Usable Capacity Figure Furnished by J.K. Motors = 15.8 gallons

Test Volume Range (92 to 94% of Usable Capacity)

= 14.54 to 14.85 gallons

Actual Test Volume = 14.85 gallons

Test Fluid Type: Stoddard Solvent ; Spec. Grav. = 0.77

Kinematic Viscosity = 1.788 centistokes; Color = Purple

Type of Fuel Pump: X Electric; __ Mechanical

Does electric pump operate with ignition switch "On" and engine "Off'?

_ Yes; X No

Details of Fuel System:

Fuel Injected

TABLE 16 FMVSS 301 POST IMPACT TEST DATA

Vehicle Year/Make/Model/Body Style: 1999/A.I. Craft/GTR/2 Door

Test Date: October 30, 1998

TEST REQUIREMENTS:

Test vehicle's fuel tank tilled to 92 to 94% of manufacturer's usable capacity and with electric fuel pump operating (if it will operate without engine operation). Part 572E test dummies located at each front designated seating position,

TEST VEHICLE IMPACT TYPE:

X Frontal (30 mph)

___ Oblique (30 mph) with __° barrier face first

contacting (driver/passenger) side

___ Rear Moving Barrier (30 mph)

___ Lateral Moving Barrier (20 mph)

FUEL SPILLAGE MEASUREMENT:

POST IMPACT TEST	TEST RESULTS	MAXIMUM ALLOWABLE
1. From impact until vehicle motion ceases	0 oz	1 oz
2. For 5 minute period after vehicle motion ceases	0 oz	5 oz
3. For next 25 minutes	0 oz	1 oz./l min

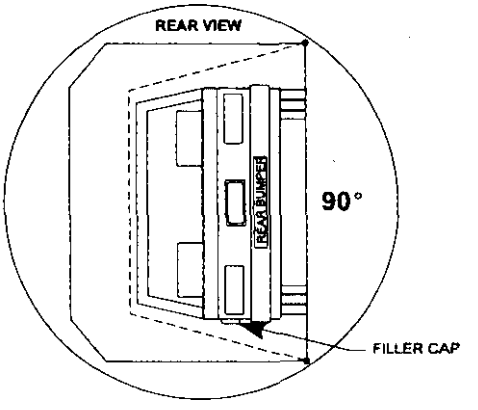
FUEL SPILLAGE LOCATION(S): None

TABLE 17 FMVSS 301 STATIC ROLLOVER TEST DATA

Vehicle Year/Make/Model/Body Style: 1999/A.I. Craft/GTR/2 Door

Test Date: October 30, 1998

TEST PHASE: 0° - 90°



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time = 2 minutes 56 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time = 5 minutes 0 seconds

TOTAL TIME = 7 minutes 56 seconds

Next Whole Minute Interval = 8 minutes

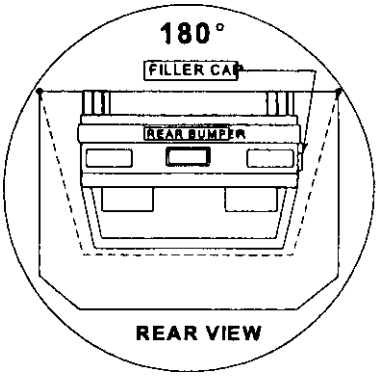
FUEL SPILLAGE MEASUREMENT:

0° TO 90° ROTATION (FILLER CAP DOWN)	TEST RESULTS	MAXIMUM ALLOWABLE
1. First 5 Minutes From Onset of Rotation	0 oz.	5 oz
2. Sixth Minute From Onset of Rotation	0 oz.	1 oz
3. Seventh Minute From Onset of Rotation	0 oz.	1 oz
4. Eighth Minute if Required	0 oz.	1 oz

FUEL SPILLAGE LOCATIONS(S): None

TABLE 17 FMVSS 301 STATIC ROLLOVER TEST DATA (Cont'd)

TEST PHASE: 90° 180°



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time = 2 minutes 27 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time = 5 minutes 0 seconds

TOTAL TIME = 7 minutes 27 seconds

Next Whole Minute Interval = 8 minutes

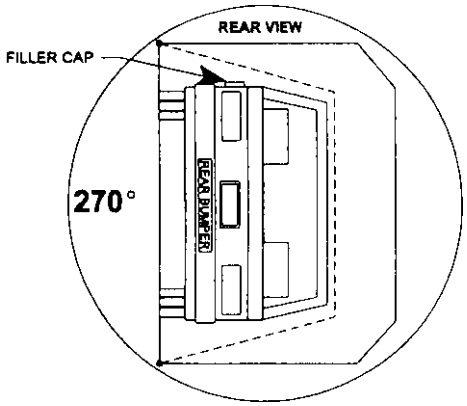
FUEL SPILLAGE MEASUREMENT:

0° TO 90° ROTATION (FILLER CAP DOWN)	TEST RESULTS	MAXIMUM ALLOWABLE
1. First 5 Minutes From Onset of Rotation	0 oz.	5 oz
2. Sixth Minute From Onset of Rotation	0 oz.	1 oz
3. Seventh Minute From Onset of Rotation	0 oz.	1 oz
4. Eighth Minute if Required	0 oz.	1 oz

FUEL SPILLAGE LOCATIONS(S): None

TABLE 17 FMVSS 301 STATIC ROLLOVER TEST DATA (Cont'd)

TEST PHASE: 180° 270°



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time = 2 minutes 12 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time = 5 minutes 0 seconds

TOTAL TIME = 7 minutes 12 seconds

Next Whole Minute Interval = 8 minutes

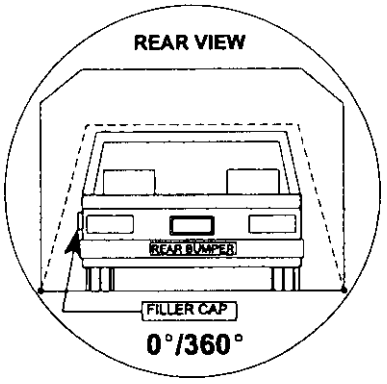
FUEL SPILLAGE MEASUREMENT:

0° TO 90° ROTATION (FILLER CAP DOWN)	TEST RESULTS	MAXIMUM ALLOWABLE
1. First 5 Minutes From Onset of Rotation	0 oz.	5 oz
2. Sixth Minute From Onset of Rotation	0 oz.	1 oz
3. Seventh Minute From Onset of Rotation	0 oz.	1 oz
4. Eighth Minute if Required	0 oz.	1 oz

FUEL SPILLAGE LOCATIONS(S): None

TABLE 17 FMVSS 301 STATIC ROLLOVER TEST DATA (Cont'd)

TEST PHASE: 270° - 360°



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time = 2 minutes 40 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time = 5 minutes 0 seconds

TOTAL TIME = 7 minutes 40 seconds

Next Whole Minute Interval = 8 minutes

FUEL SPILLAGE MEASUREMENT:

0° TO 90° ROTATION (FILLER CAP DOWN)	TEST RESULTS	MAXIMUM ALLOWABLE
1. First 5 Minutes From Onset of Rotation	0 oz.	5 oz
2. Sixth Minute From Onset of Rotation	0 oz.	1 oz
3. Seventh Minute From Onset of Rotation	0 oz.	1 oz
4. Eighth Minute if Required	0 oz.	1 oz

FUEL SPILLAGE LOCATIONS(S): None

SECTION 4

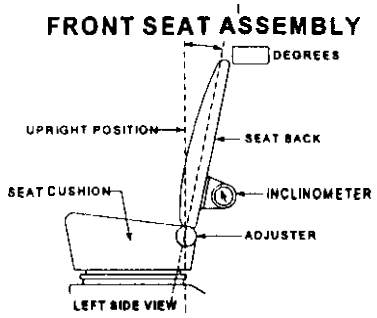
OCCUPANT, VEHICLE, AND CAMERA INFORMATION

TABLE 18 SEAT AND STEERING COLUMN POSITIONING DATA

Vehicle Year/Make/Model/Body Style: 1999/A.I. Craft/GTR/2 Door

Test Date: October 30, 1998

NOMINAL DESIGN RIDING POSITION:



Driver Seat: Seat Back Angle = 18.0°

Passenger Seat: Seat Back Angle = 17.5°

SEAT FORE AND AFT POSITIONS:

Driver Seat: The seat track had a total position movement of 20 notches and was positioned 11 notches rearward from the foremost position with the forwardmost locking position as zero.

Passenger Seat: The seat track had a total position movement of 20 notches and was positioned 11 notches rearward from the foremost position with the forwardmost locking position as zero.

STEERING COLUMN ADJUSTMENTS:

The steering column was positioned at the mid-point of its swing. The angle of the steering column was 22.3°.

FIGURE 1 DUMMY MEASUREMENT LOCATIONS FOR FRONT SEAT OCCUPANTS

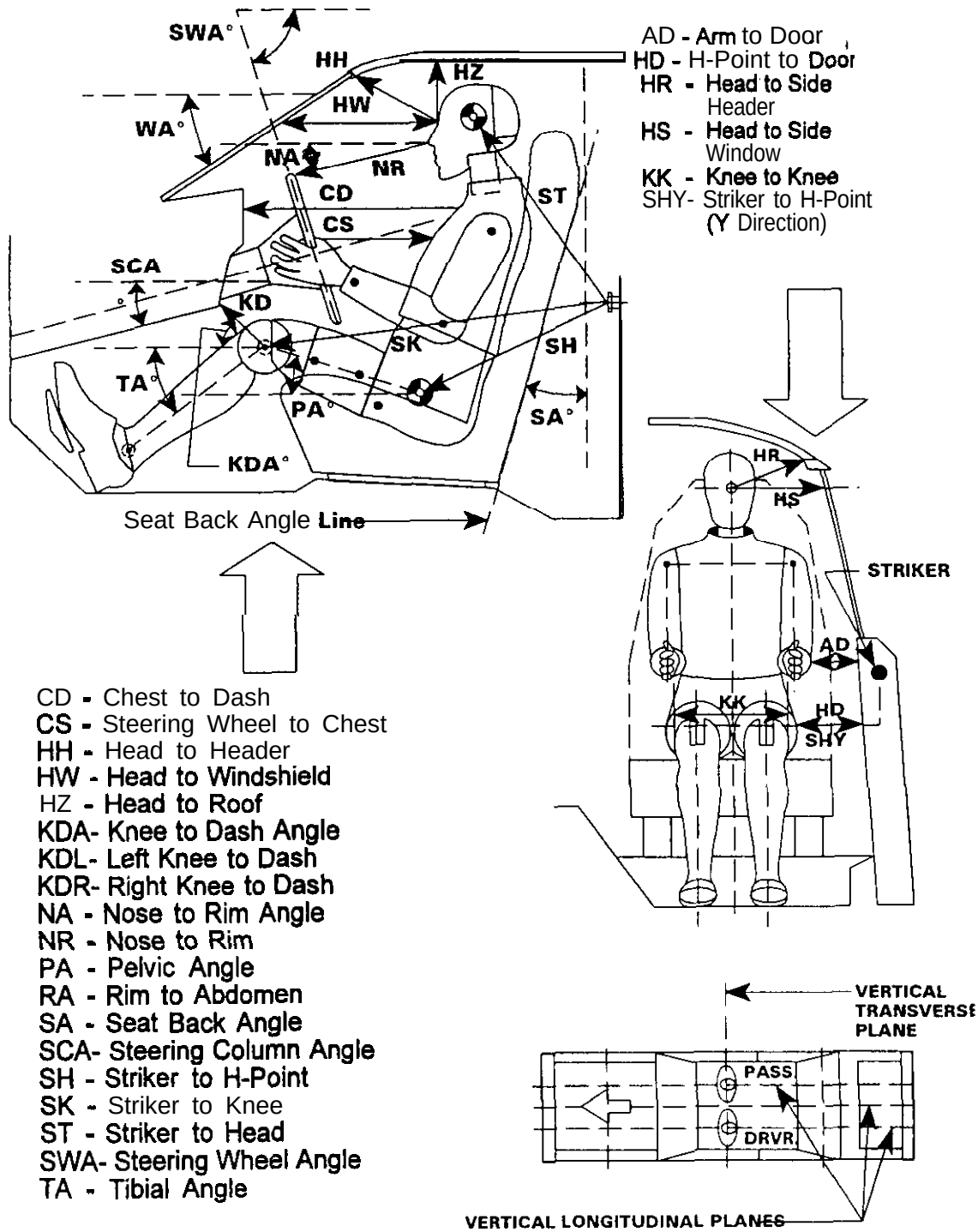


TABLE 19 DUMMY MEASUREMENT DATA FOR FRONT SEAT OCCUPANTS

Vehicle Year/Make/Model/Body Style: 1999/A.I. Craft/GTR/2 Door

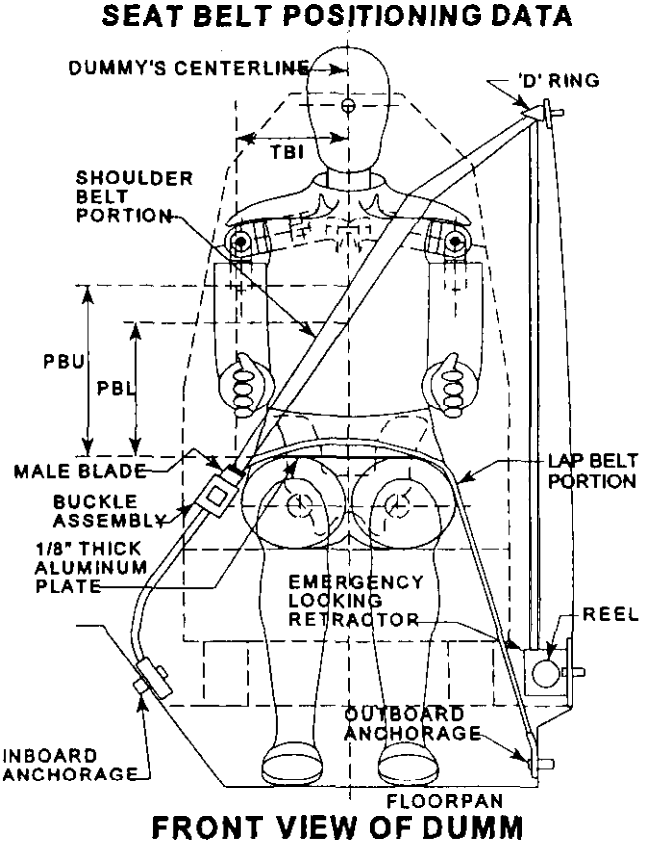
Test Date: October 30, 1998

	DRIVER (Serial #306)	PASSENGER (Serial #307)
WA°	28.4°	
SWA°	20.9°	N/A
SCA°	22.3°	N/A
SA°	18.0°	17.5°
HZ	160	158
HH	374	326
HW	589	567
HR	231	219
NR	415 Angle (NA) 9.3°	N/A
CD	575	548
CS	342	N/A
RA	317	N/A
KDL	206	185 Angle (KDA) 23.5°
KDR	196 Angle (KDA) 40.5°	185
PA°	24.6°	23.3°
TA°	32.1°	34.3°
KK	300	292
ST*	562 Angle 32.7°	586 Angle 37.3°
SK*	850 Angle 93.1°	873 Angle 94.1°
SH*	533 Angle 110.7°	528 Angle 108.3°
SHY	218	217
HS	283	279
HD	123	124
AD	84	72

TABLE 20 SEAT BELT POSITIONING DATA

Vehicle Year/Make/Model/Body Style: 1999/A.I. Craft/GTR/2 Door

Test Date: October 30, 1998



(Illustration)

	Driver Dummy	Passenger Dummy
TBI–Vertical centerline of 50% dummy to intersection of upper torso belt to lap belt	241	225
PBU–Top surface of aluminum plate to belt upper edge (mm)	335	338
PBL–Top surface of aluminum plate to belt lower edge (mm)	263	260

FIGURE 2 VEHICLE TARGET LOCATIONS

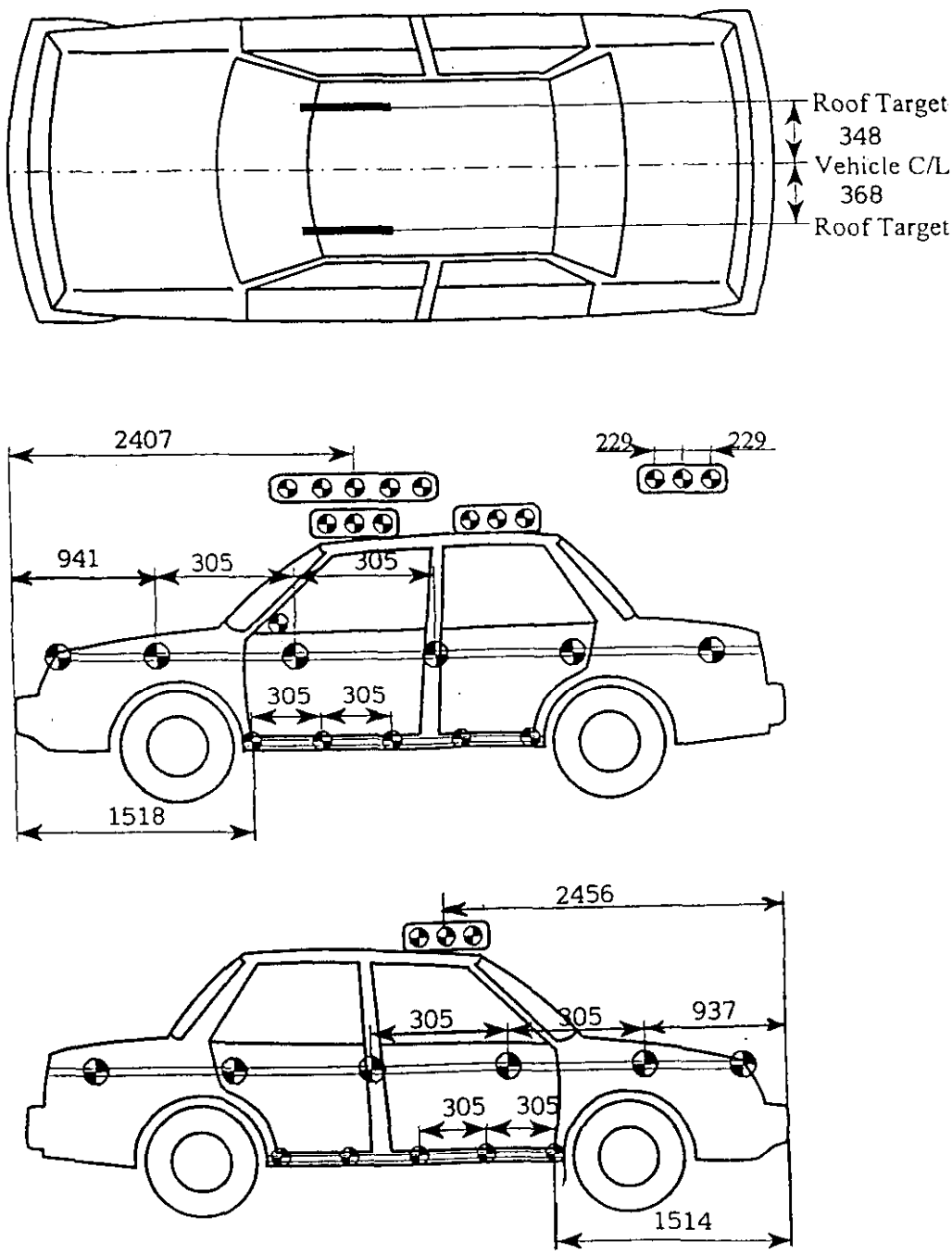


FIGURE 3 CAMERA POSITIONS

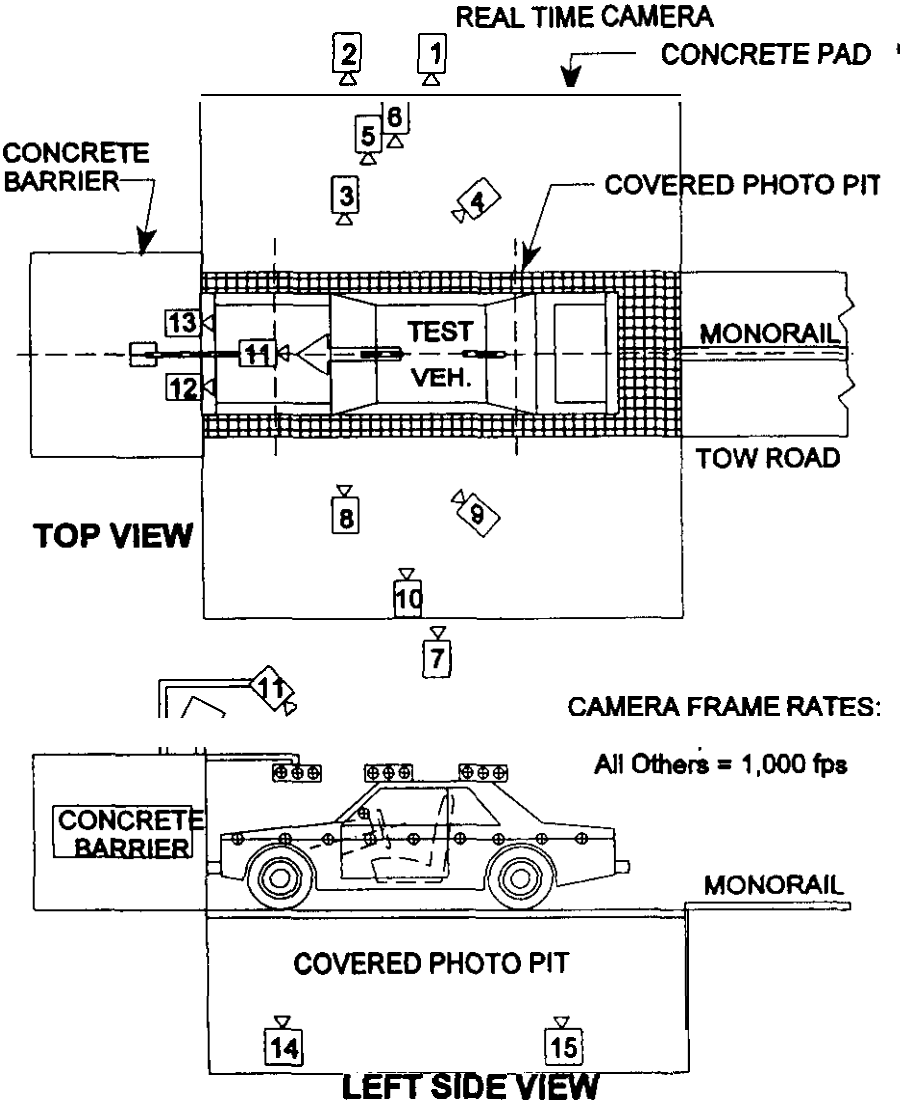


TABLE 21 CAMERA LOCATIONS

Veh. Year/Make/Model/Body Style: 1999/A.I. Craft/GTR/2 Door

Test Date: October 30, 1998

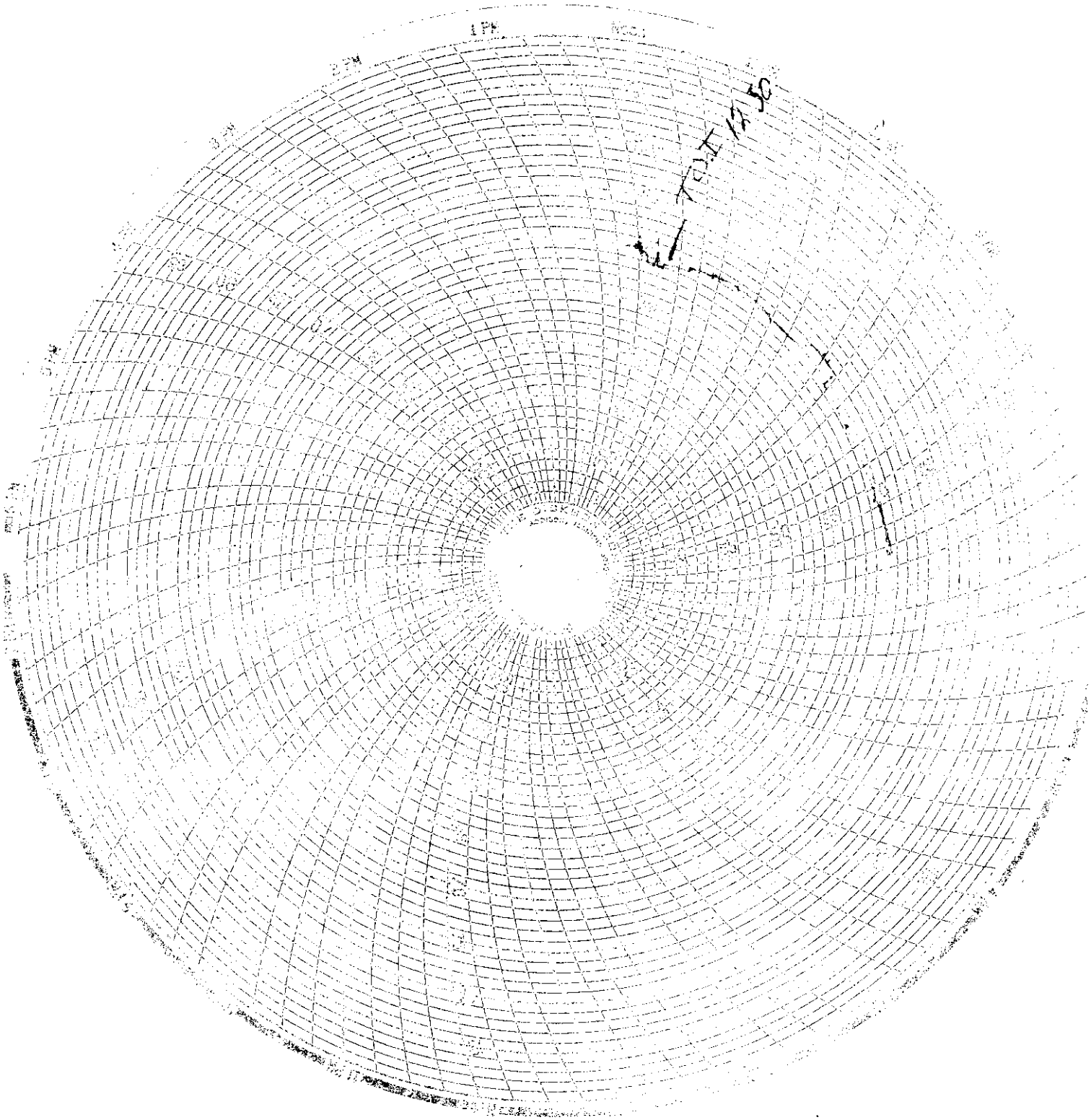
	VIEW	CAMERA POSITIONS (inches)*			ANGLE (deg)	LENS (mm)	SPEED (fps)
		X	Y	Z			
1	Real-Time Left Side View					10	24
2	Right Front Half	-1200	-8370	1445	90	25	962
3	Steering Column Top	-2020	-7610	1550	90	25	1000
4	Steering Column Bottom	-2000	-7600	1030		25	1000
5	Driver Closeup	-1690	-1031	1330	90	75	1099
6	Driver Angle	-4880	-5550	1990	90	50	1176
7	Left Passenger Overall	-2220	7000	1370	90	13	1000
8	Left Front Half	-1120	8420	1350	90	25	1005
9	Passenger Closeup	-1500	10260	1100		75	1000
10	Passenger Angle	-4700	5190	2000	90	50	1111
11	Windshield	380	0	2750		13	1000
12	Driver Front	-100	-460	1610		13	909
13	Passenger Rear	-100	420	1610		13	971
14	Pit Front	-1300	0	-3180		13	1000
15	Pit Rear	-2885	0	-3180		13	1010

* +X = Film plane rearward of barrier

+Y = Film plane to left of monorail centerline

+Z = Film plane to above ground level

FIGURE 4 TEMPERATURE



APPENDIX A
PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

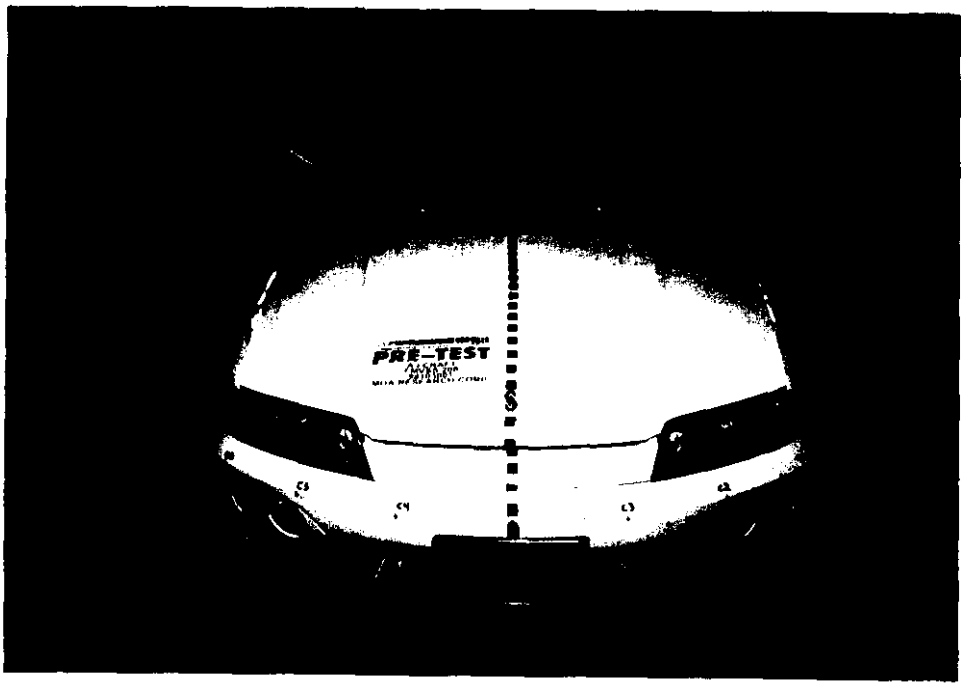


Photo No. A-l - Pre-Test Front View

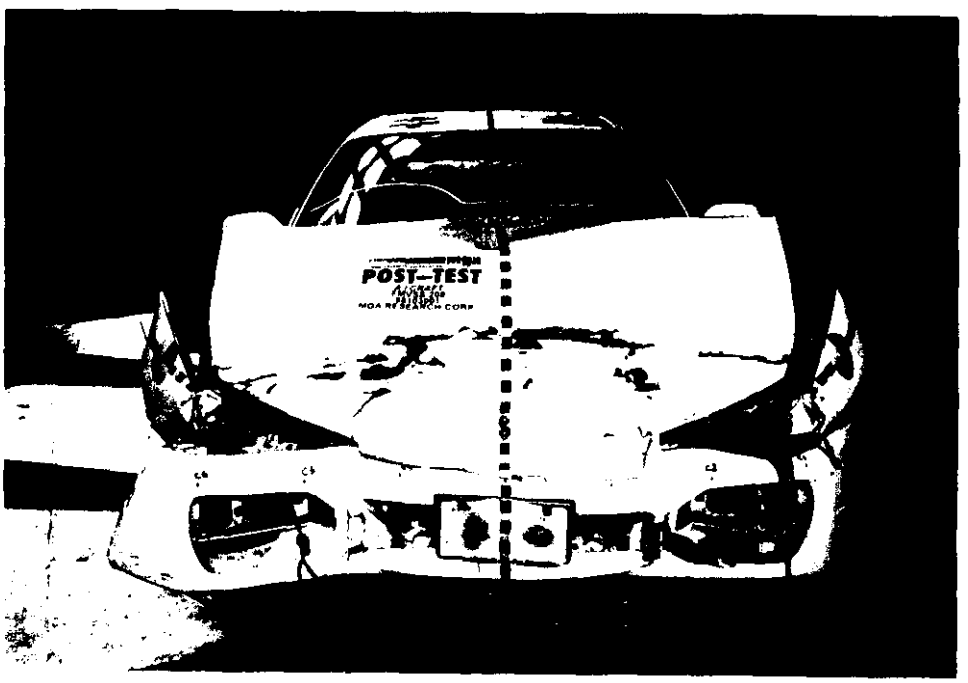


Photo No. A-2 - Post-Test Front View

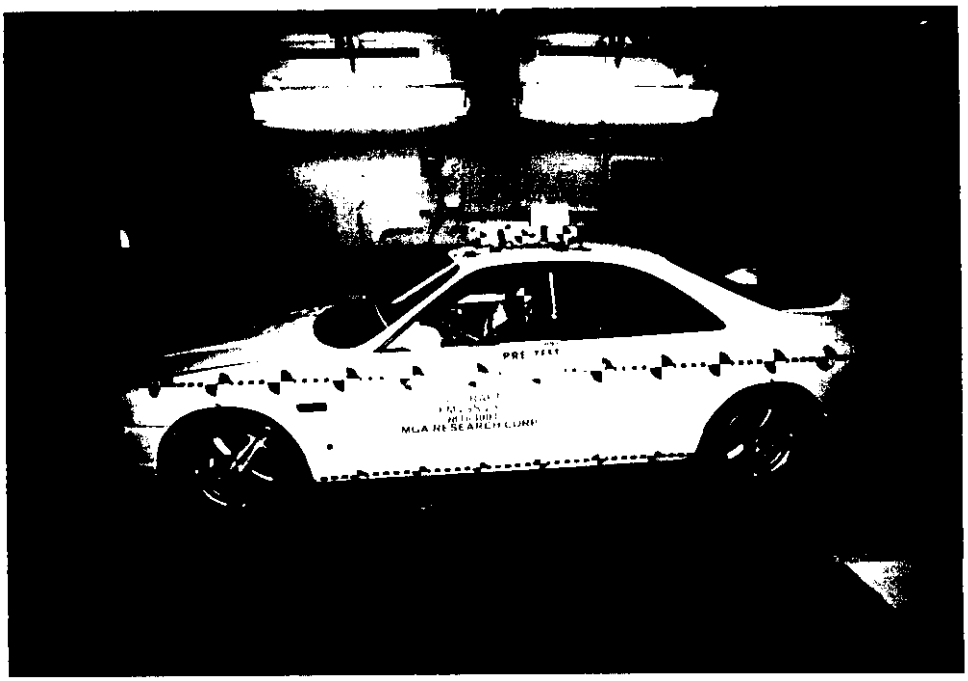


Photo No. A-3 - Pre-Test Left Side View

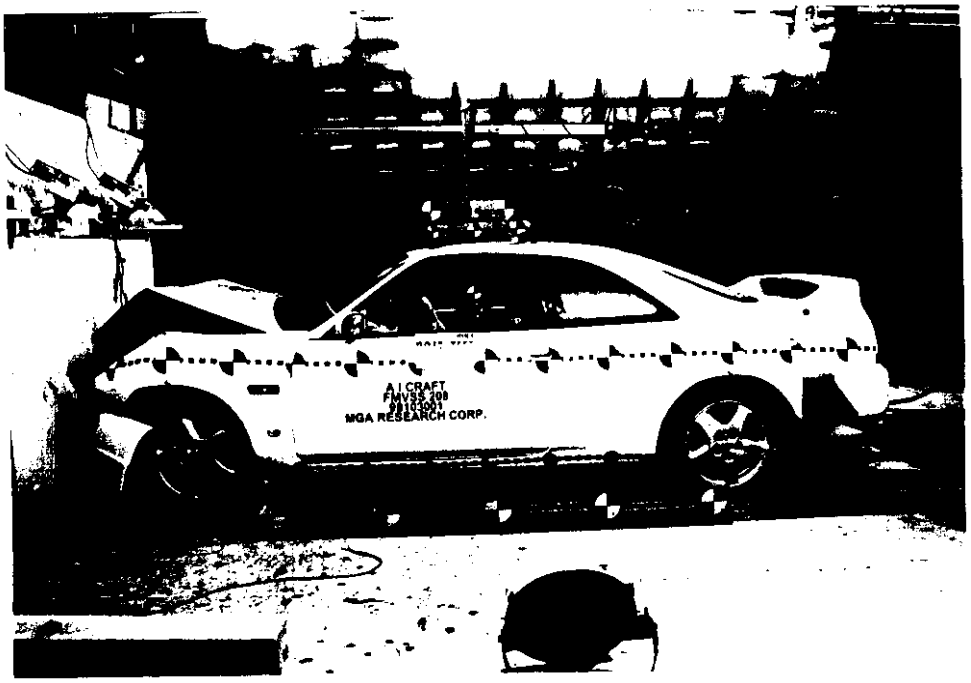


Photo No. A-4 Post-Test Left Side View

Photo No. A-5 - Pre-Test Right Side View

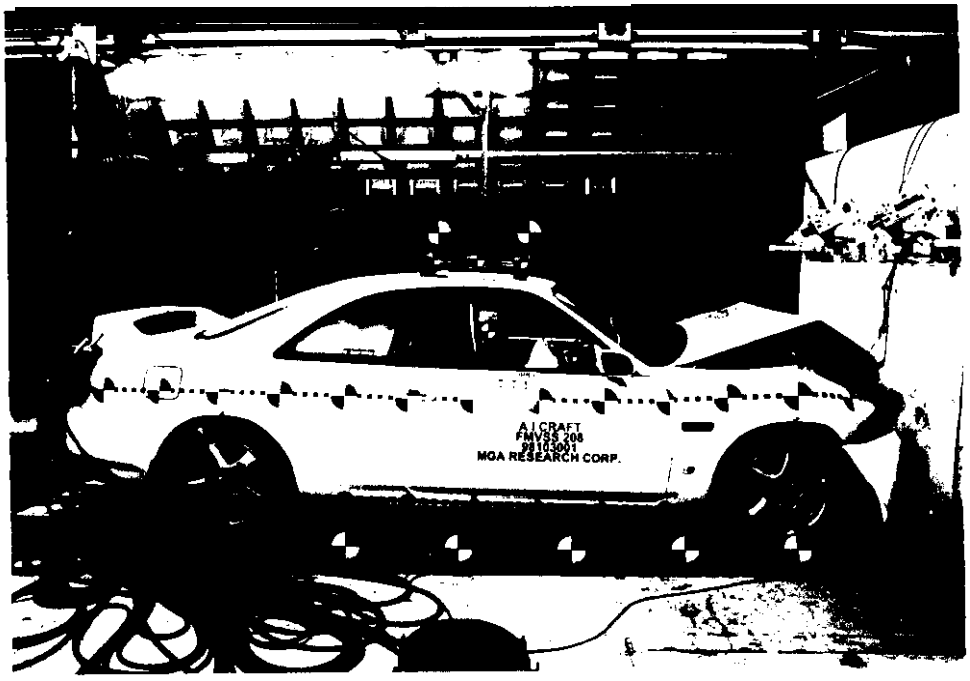


Photo No. A-6 - Post-Test Right Side View

Photo No. A-7 Pre-Test 3/4 Left Rear View

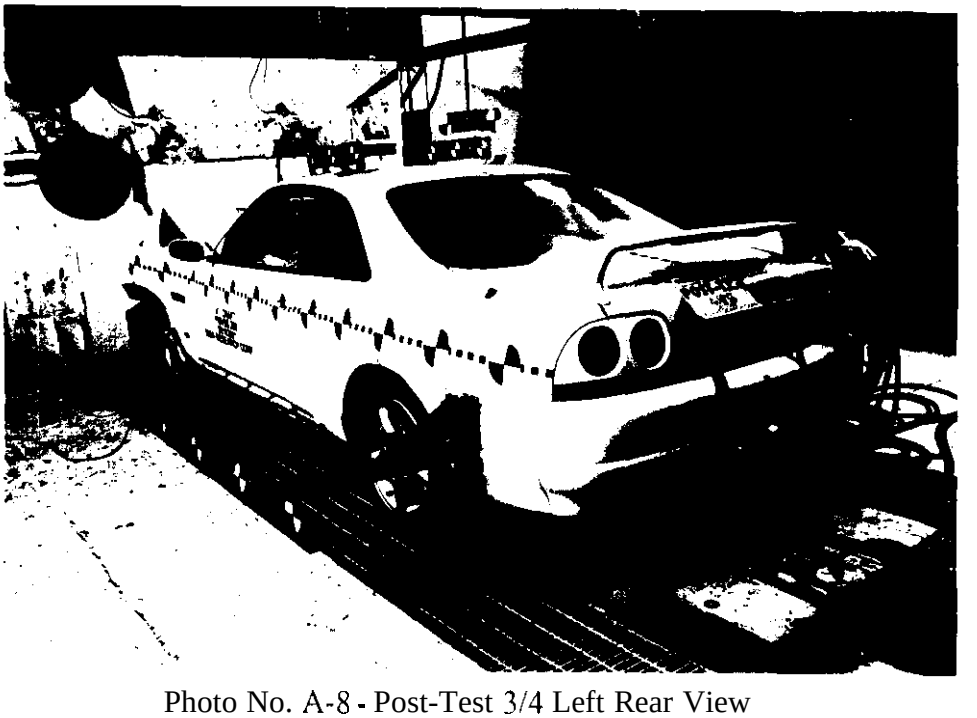
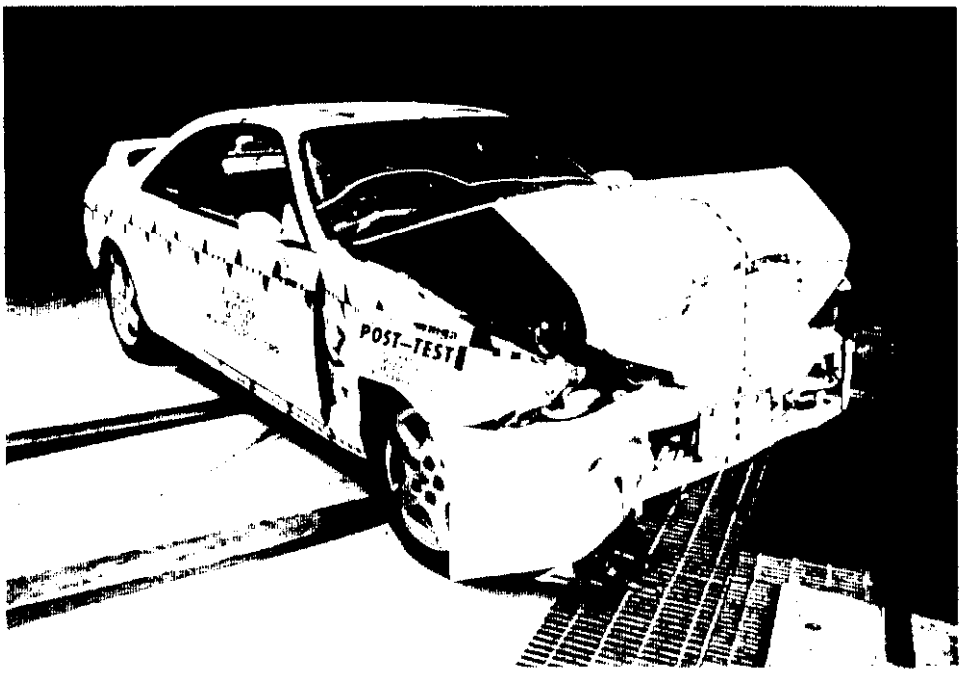


Photo No. A-8 - Post-Test 3/4 Left Rear View

Photo No. A-9 - Pre-Test 3/4 Right Front View



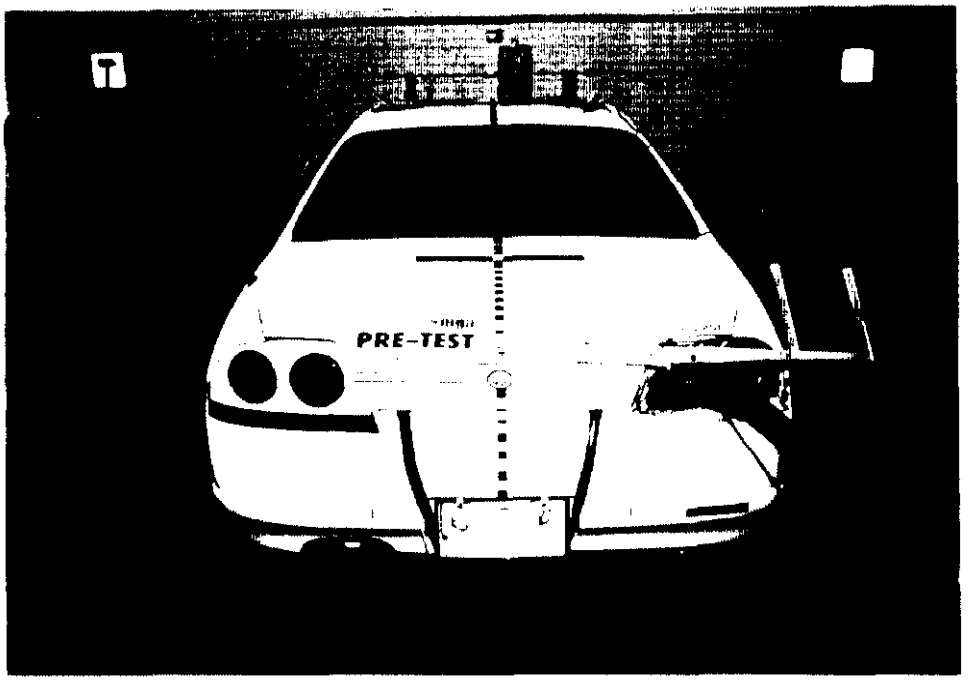


Photo No. A 17 Pre Test Rear View

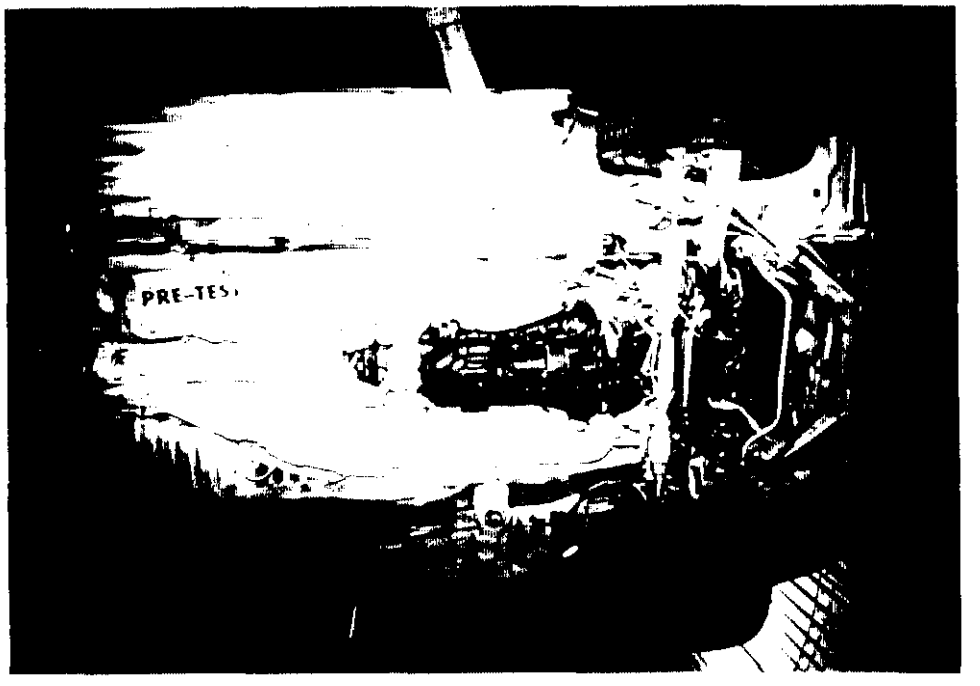
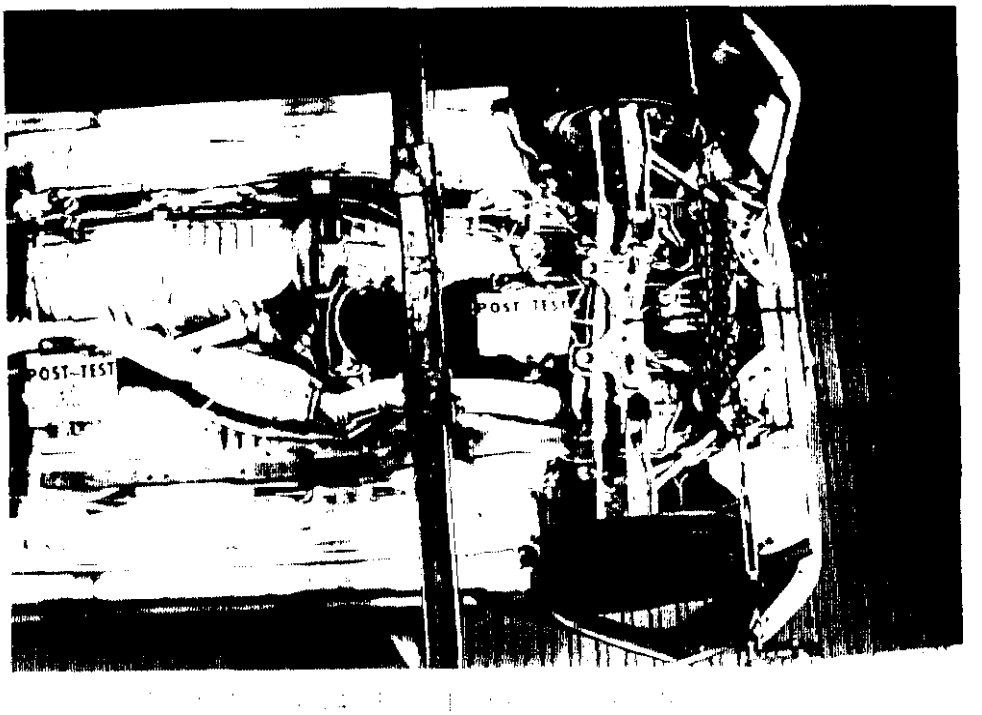


Photo No. A-13 Pre Test Impact Underbody View



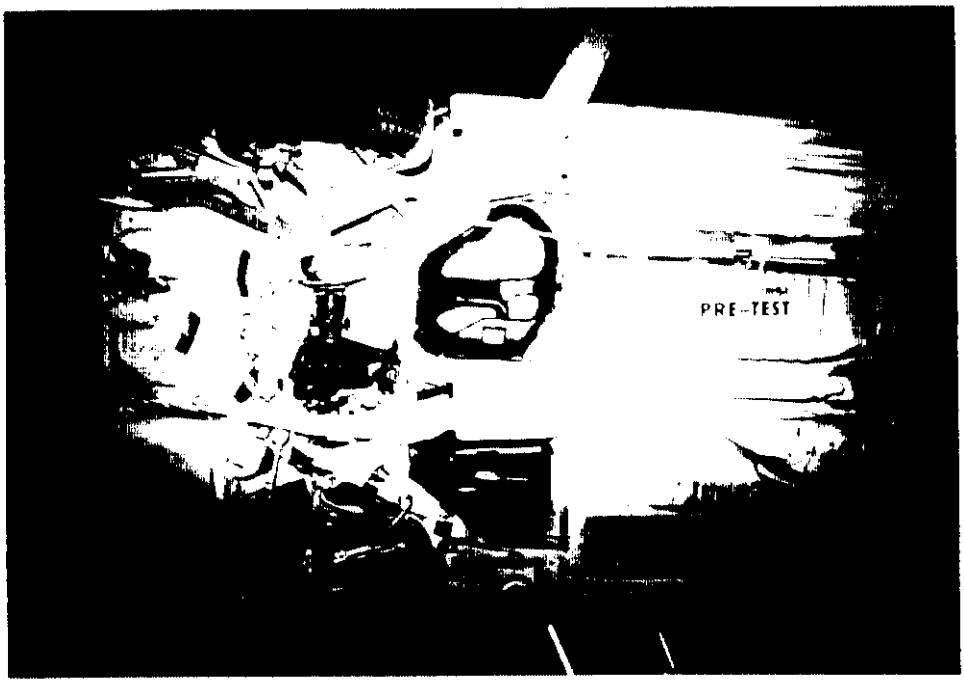
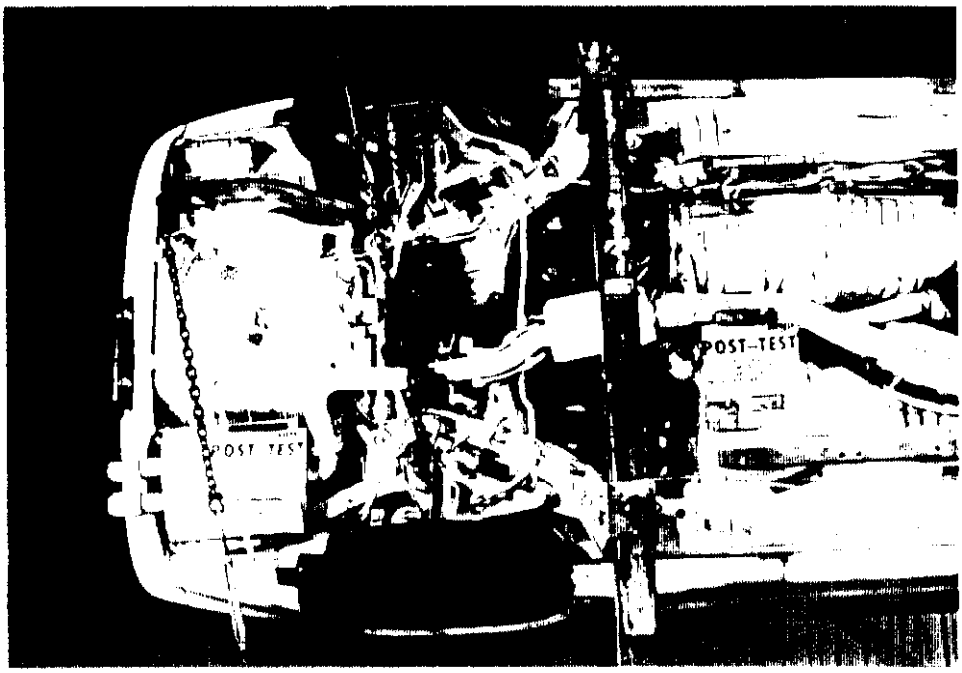


Photo No. A-15 Pre-Test Rear Underbody View



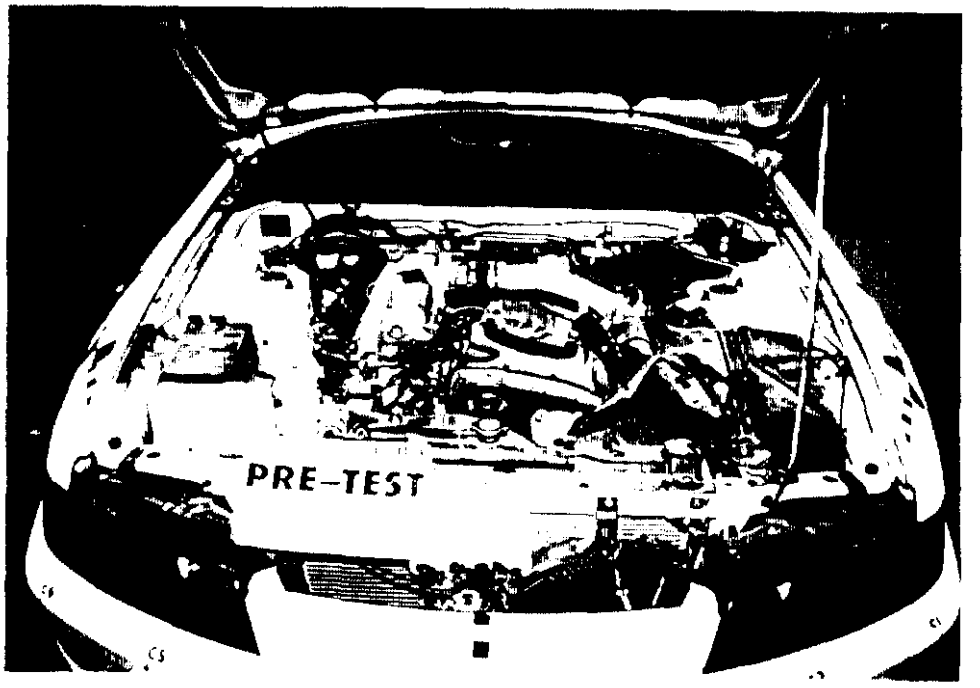
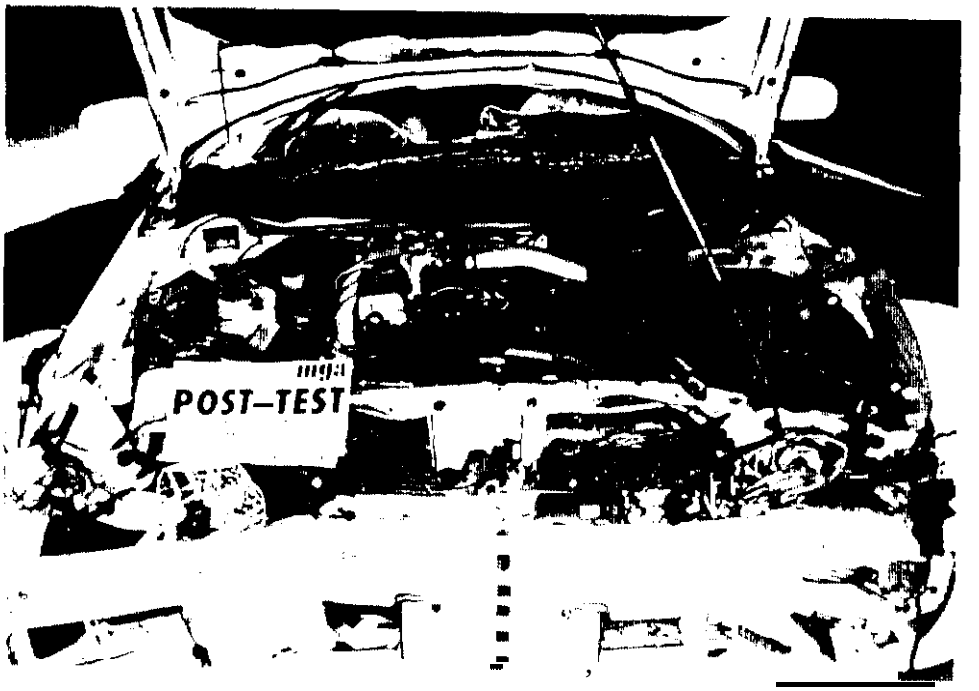
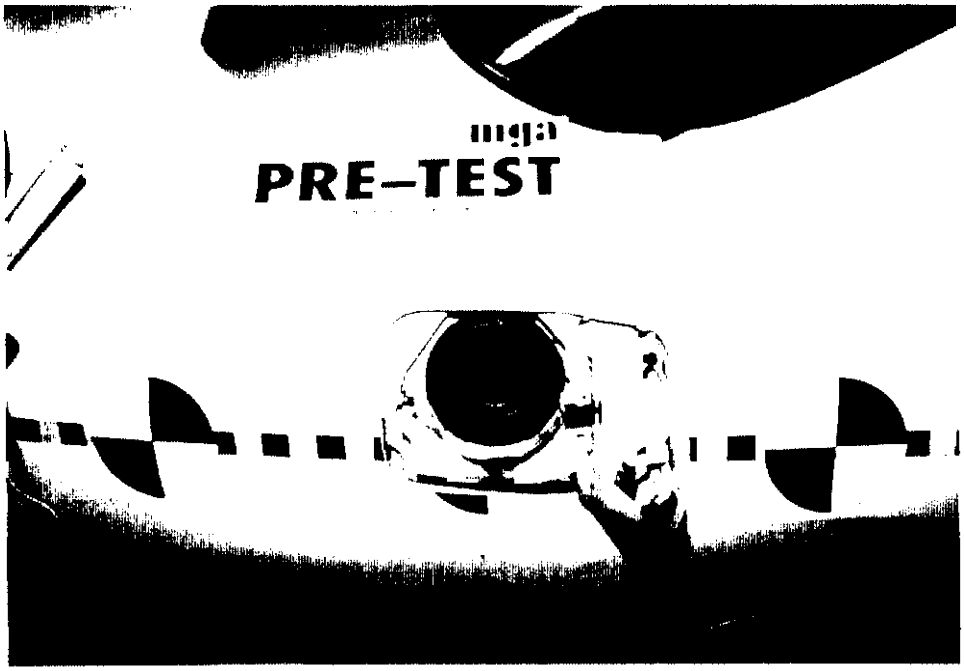


Photo No. A-17 - Pre-Test Engine Compartment View

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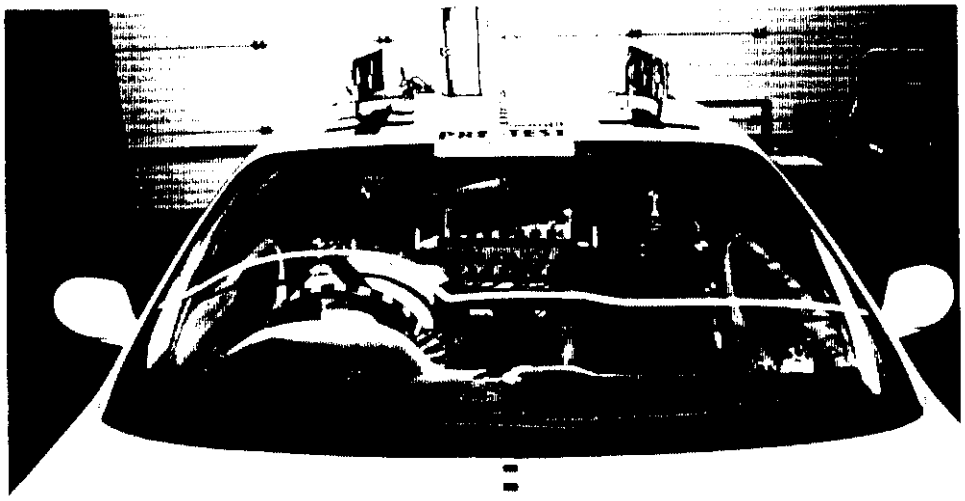

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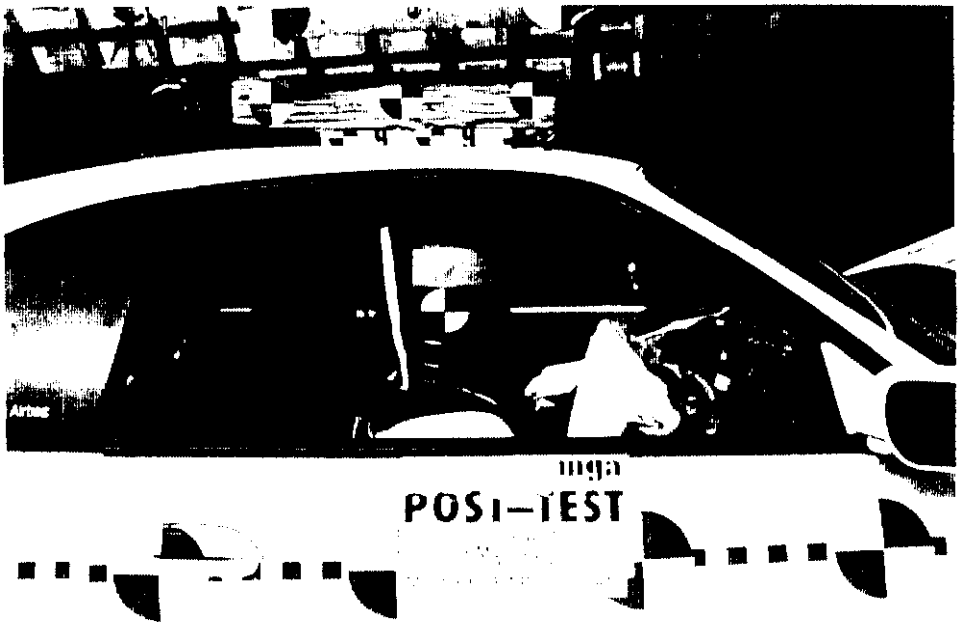
Photo No. A-20 - Pre-Test Windshield View

Photo No. A-22 - Pre-Test Driver Dummy Position View



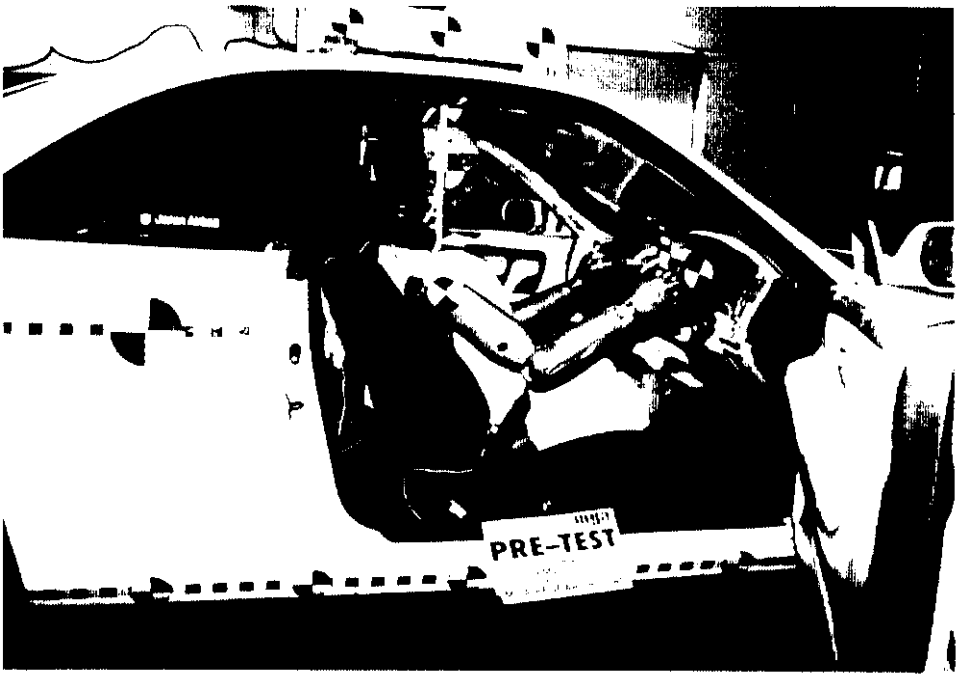


Photo No. A-24 - Pre-Test Driver Dummy Position View (Door Open)

Photo No. A-26 - Pre-Test Driver Reinforced View

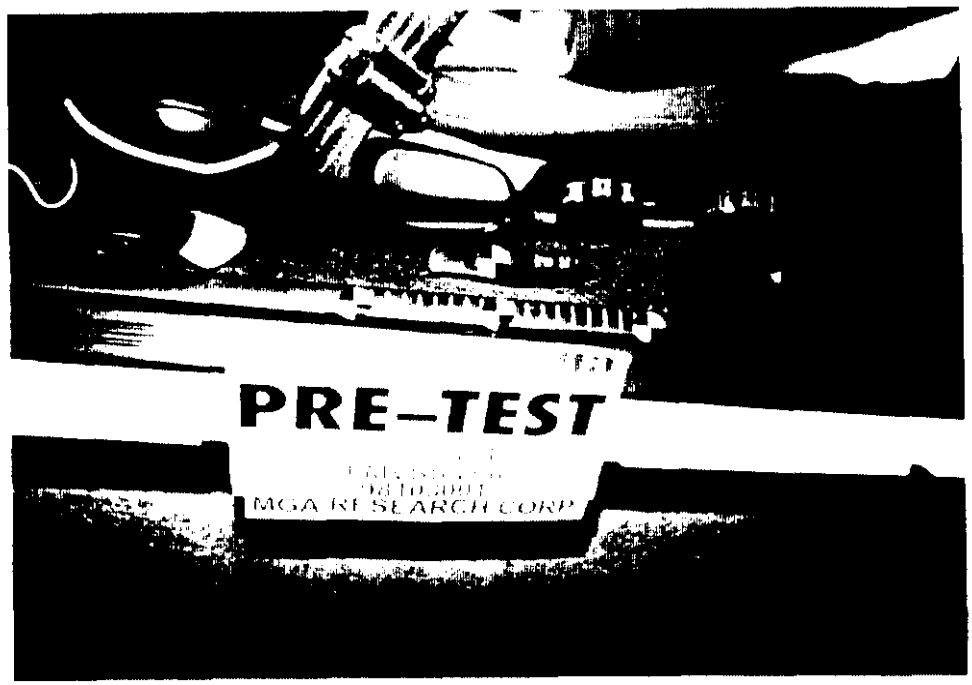


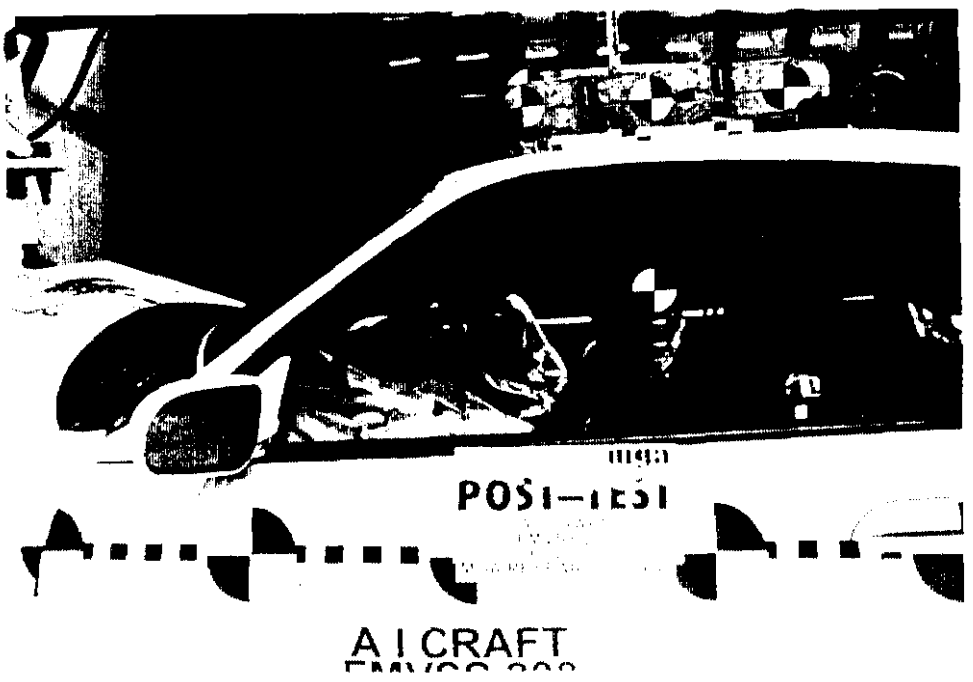
Photo No. A-28 - Pre-Test Driver Seat Position View

Photo No. A-30 - Pre-Test Device Used Before Video

Photo No. A-32 - Post-Test Driver Airbag Contact Area

Photo No. A-33 - Post-Test Device Rear Corner View

Photo No. A-35- Pre-Test Passenger Dummy Position View



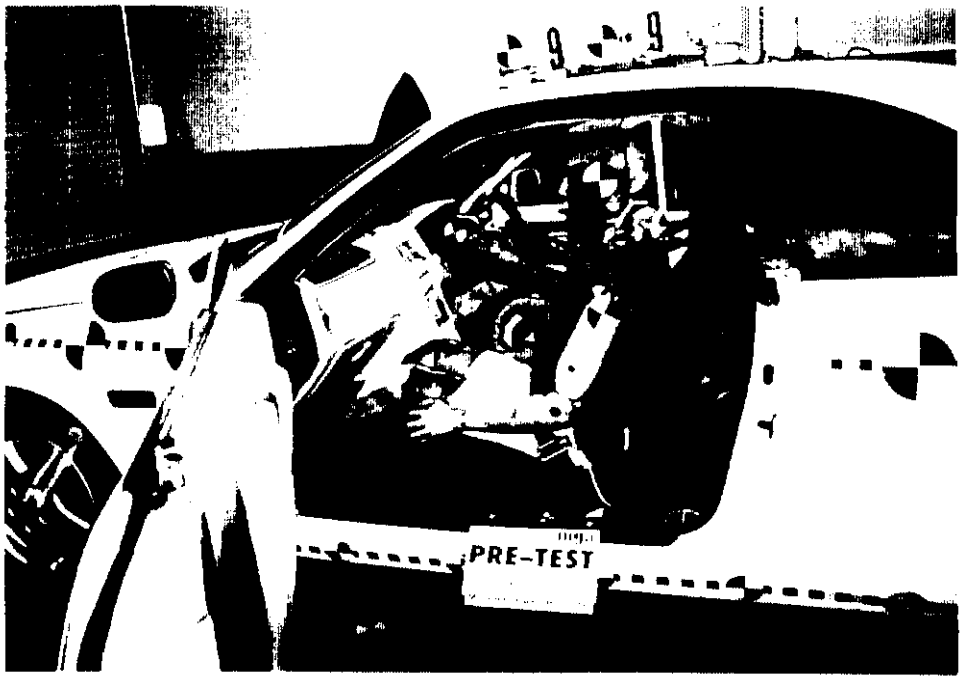


Photo No. A-37 - Pre-Test Passenger Dummy Position View (Door Open)

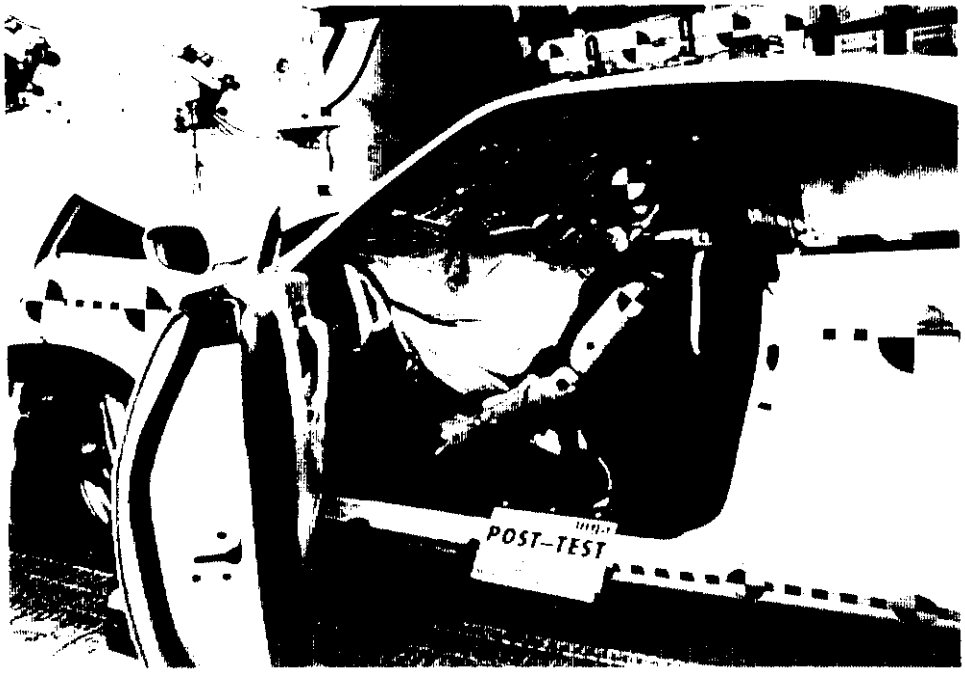


Photo No. A-30 - Pre-Test Photograph of Right Side View

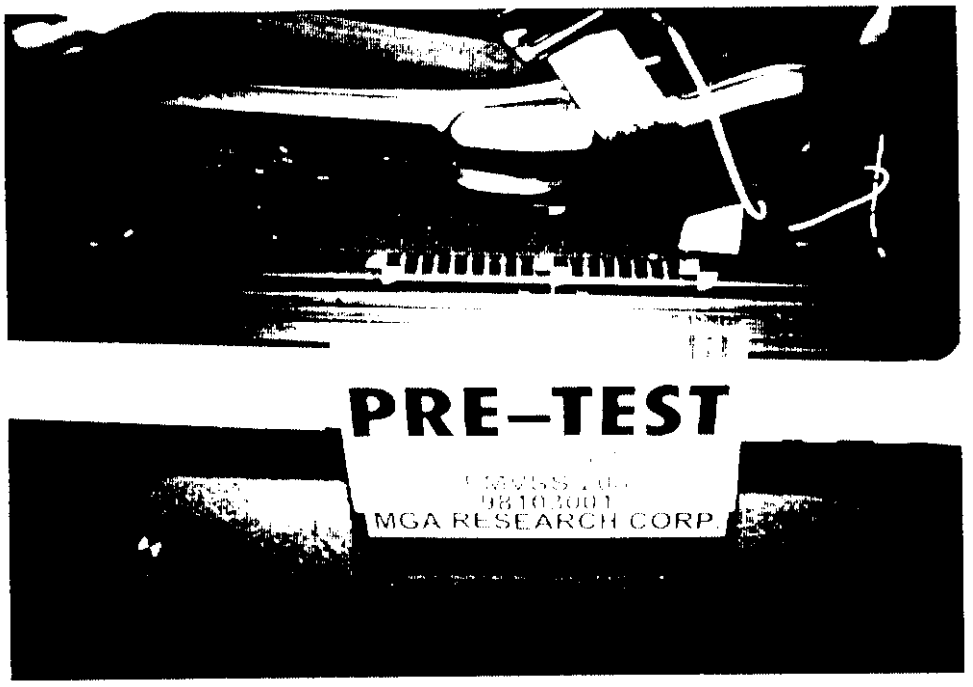


Photo No. A-41 - Pre-Test Passenger Seat Position View

Photo No. A-42 - Post-Test Passenger Seat Position View

Photo No. A-43 - Pre-Test Passenger Dummy Knee Bolster View

Photo No. A-45 - Post-Test Passenger Dummy Airbag Contact View

Photo No. A-47 - Post-Test Passenger Dummy Knee Contact View

Photo No. A-48 - Post-Test

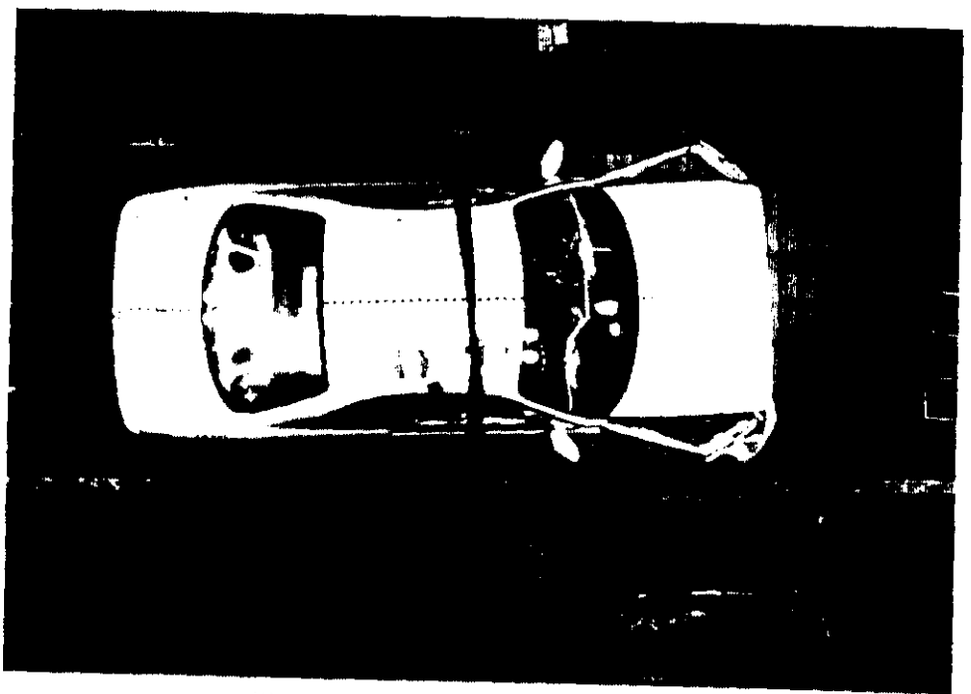
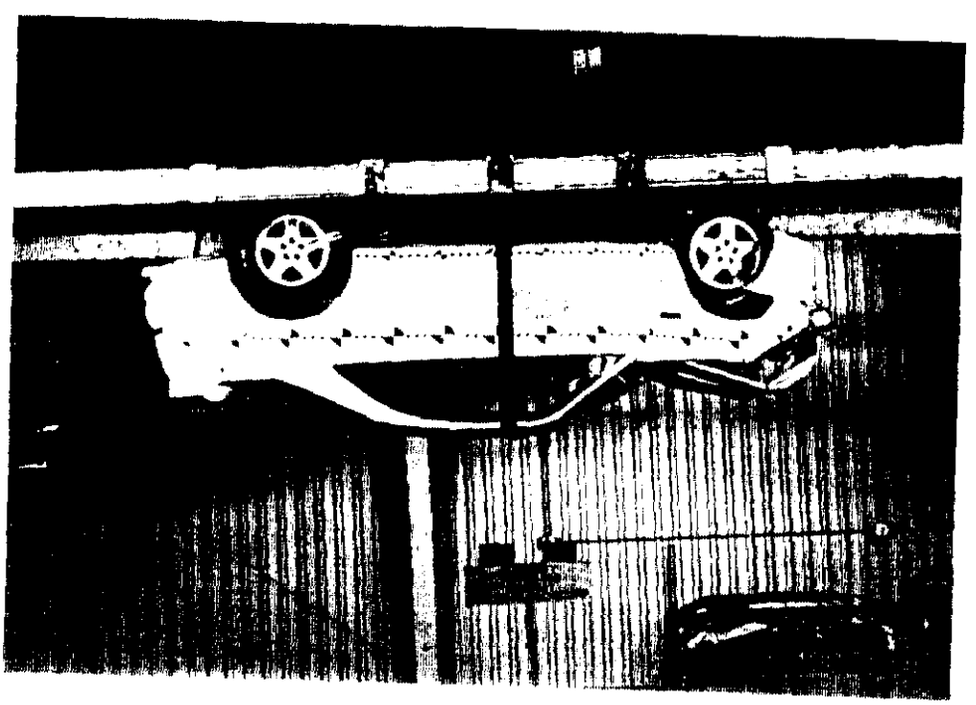


Photo No. A-49 - Rollover



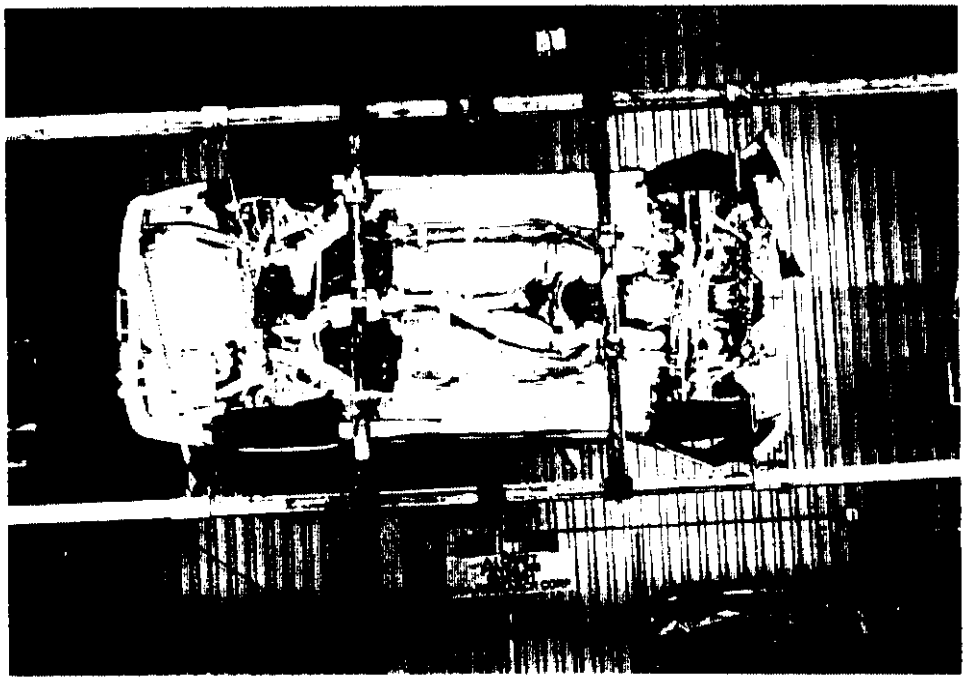


Photo No. A-5 Reference 27

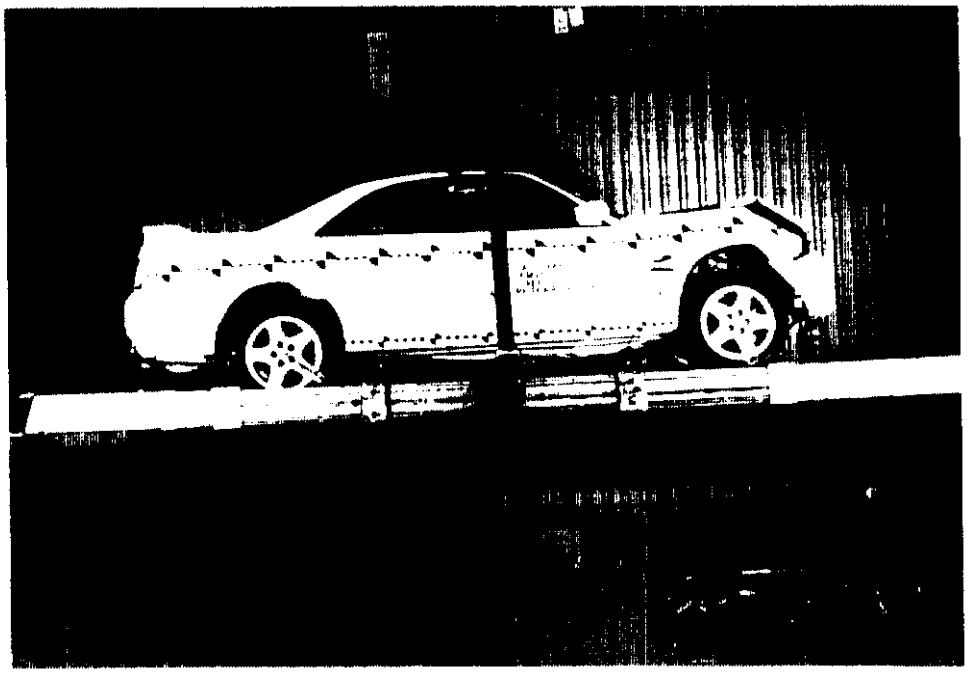


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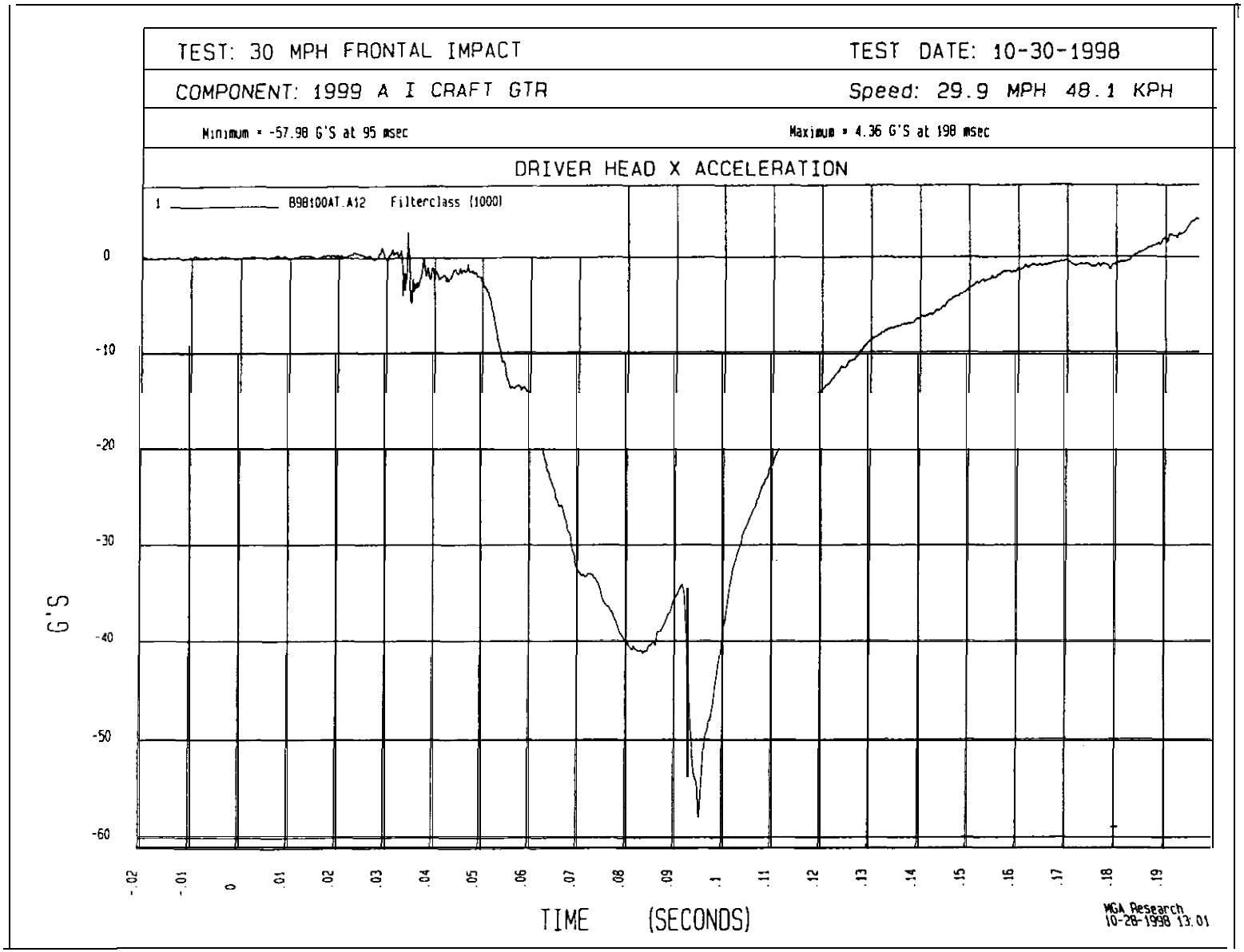
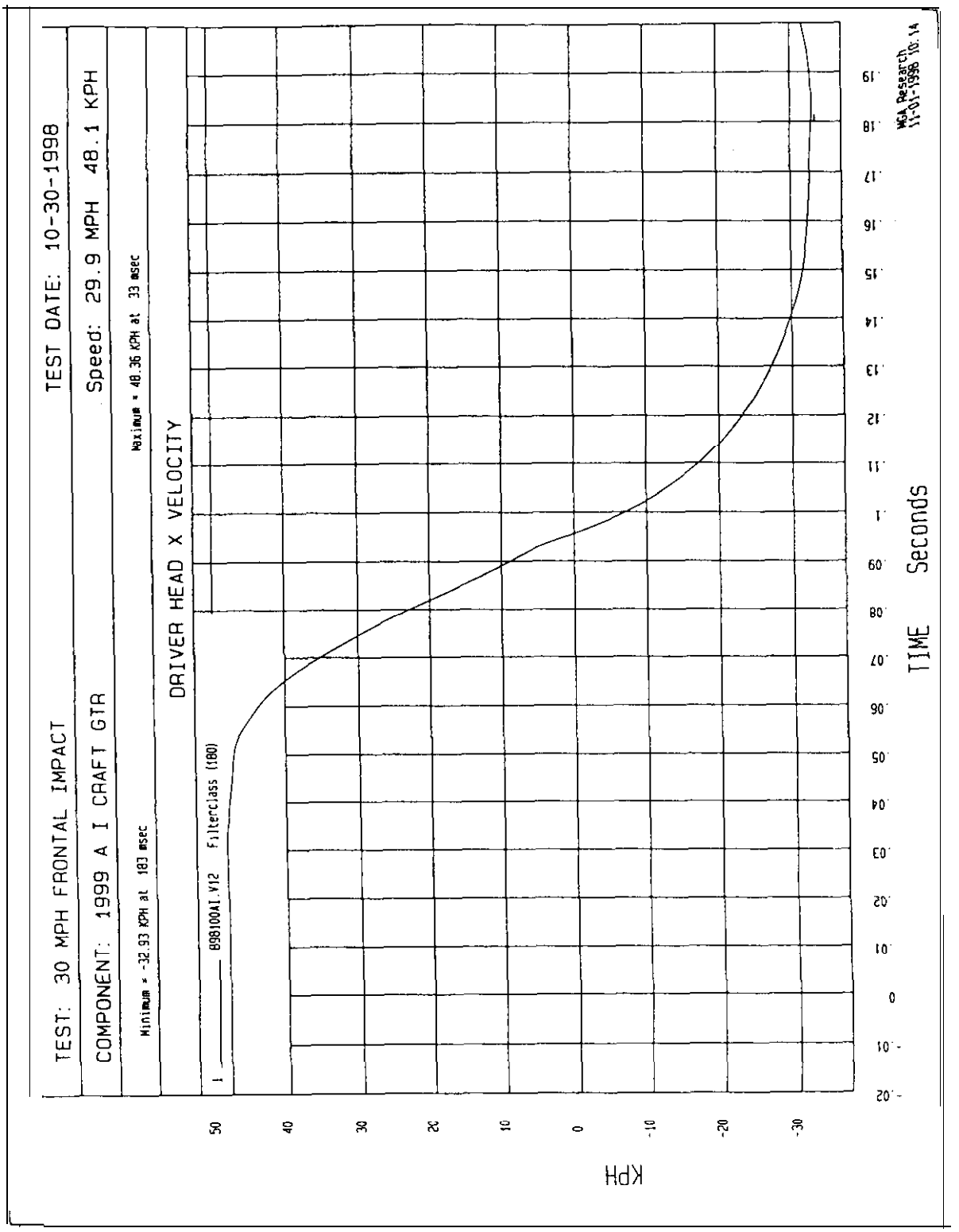
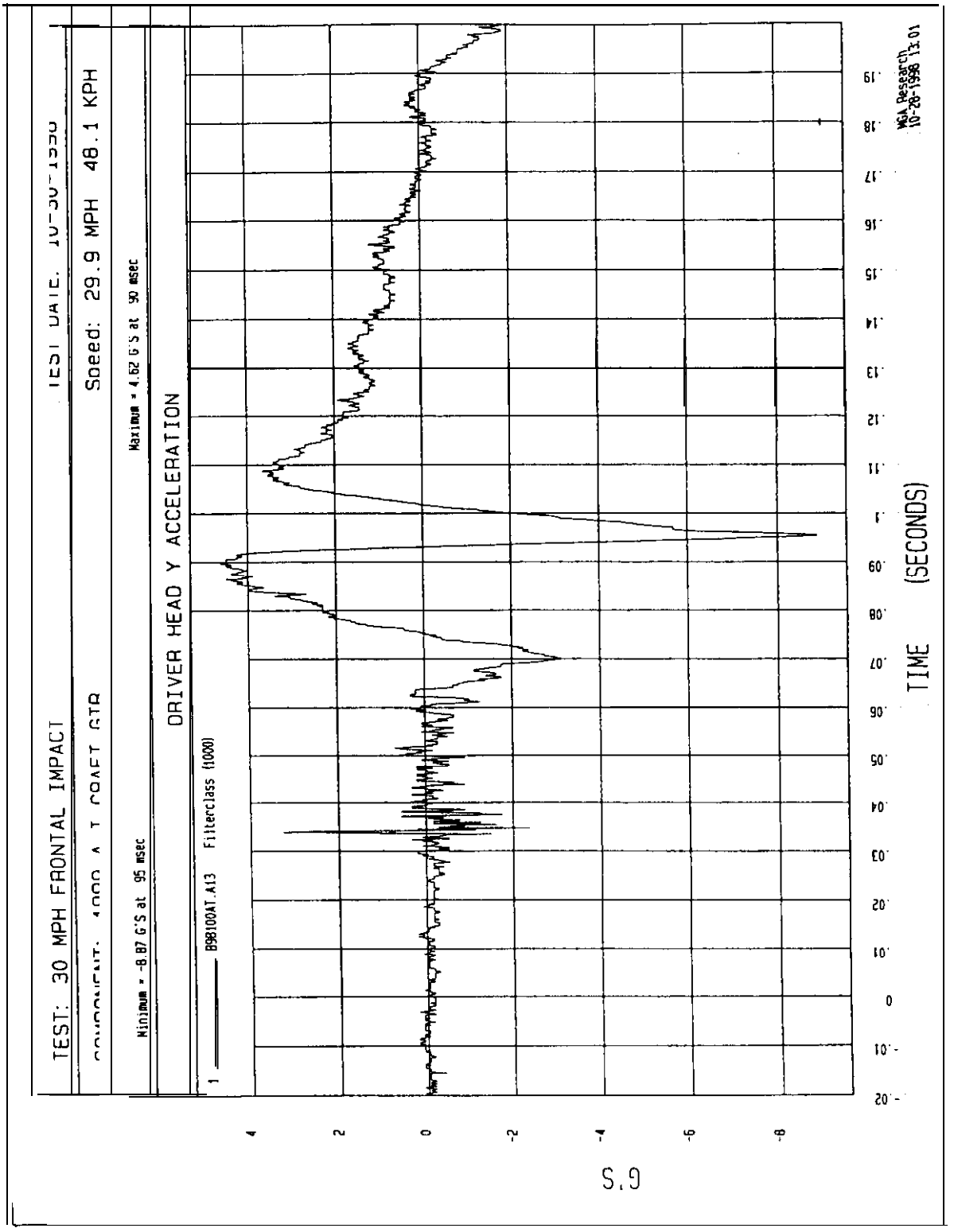
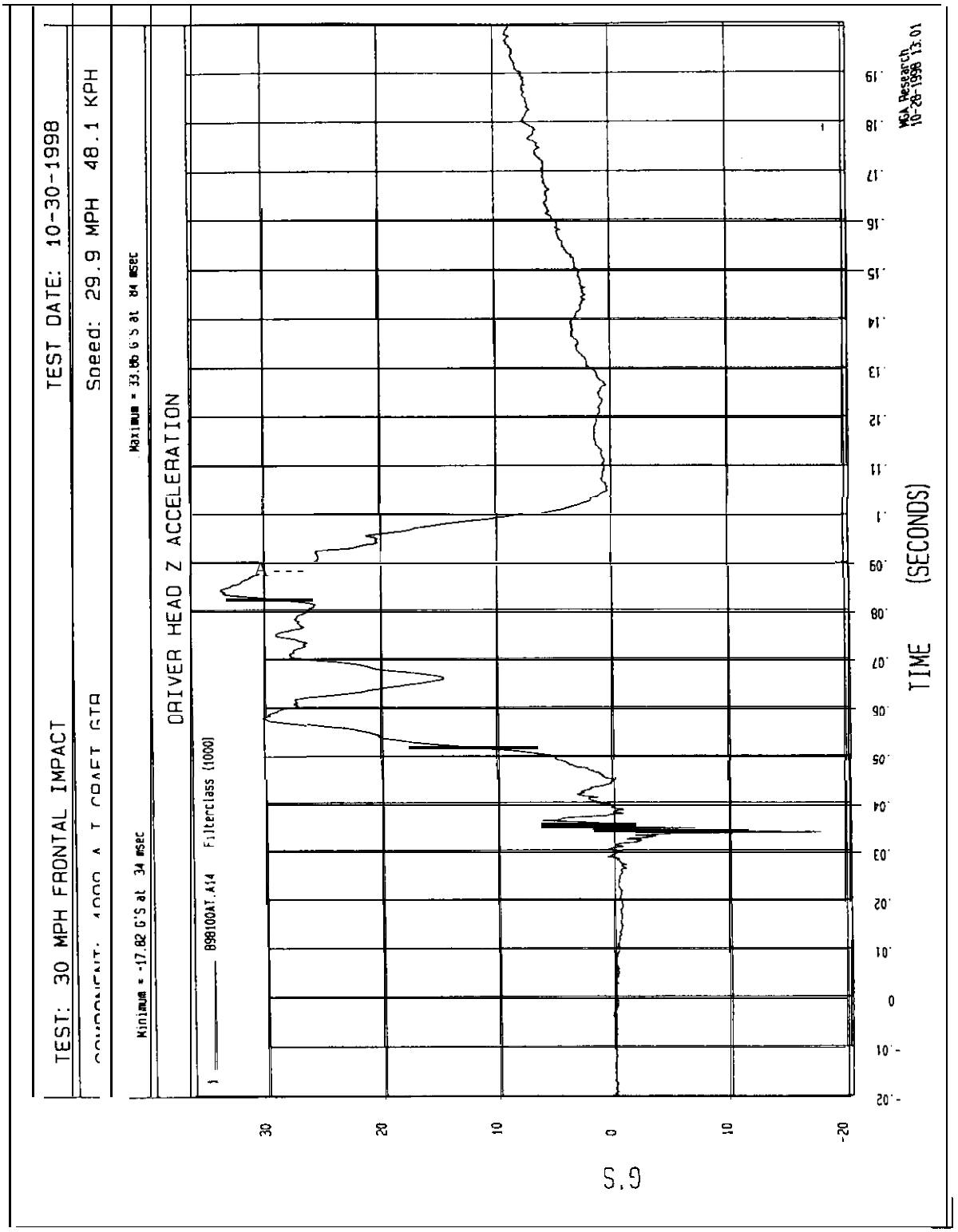
TABLE OF DATA PLOTS (CONTINUED)

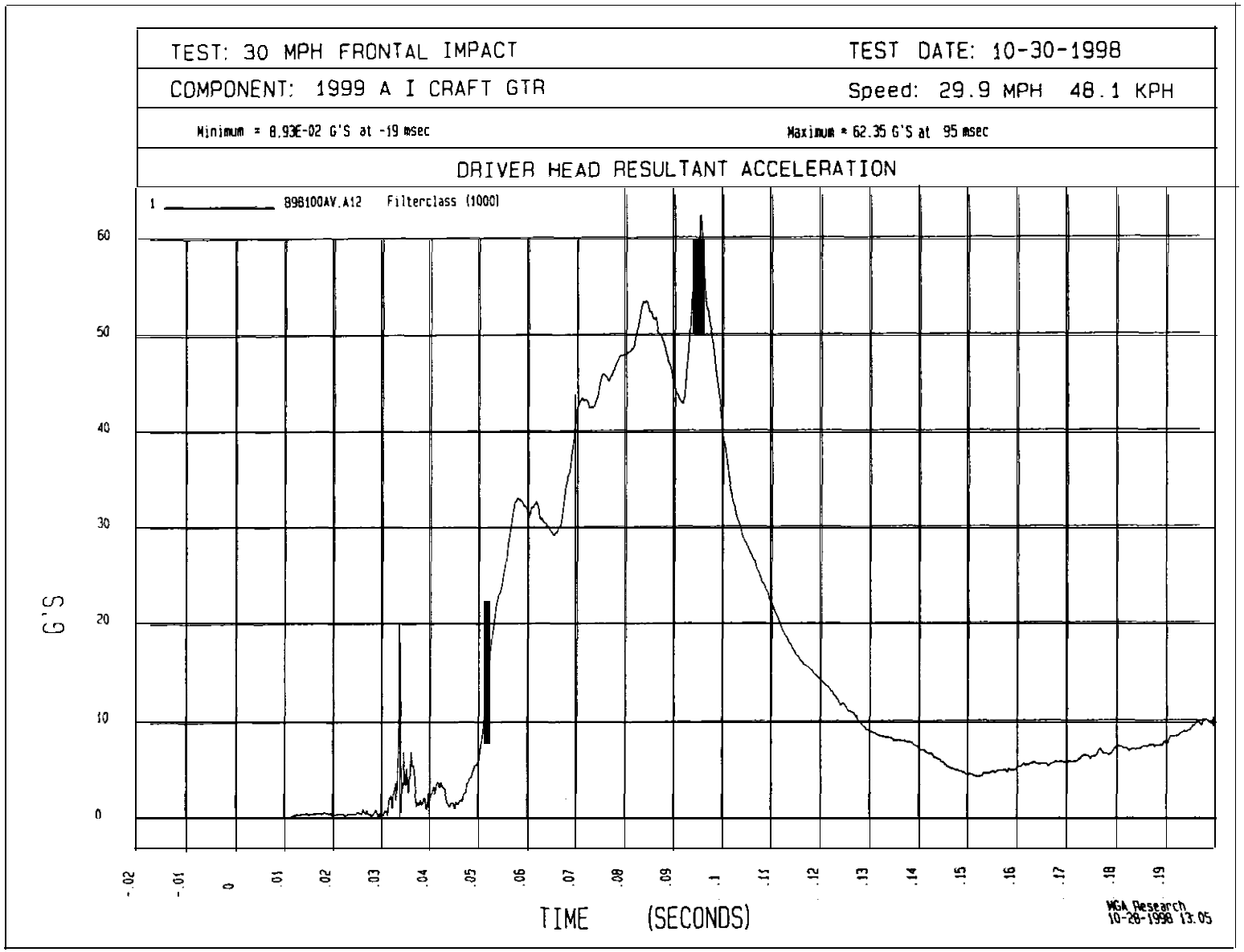
TABLE OF DATA PLOTS (CONTINUED)

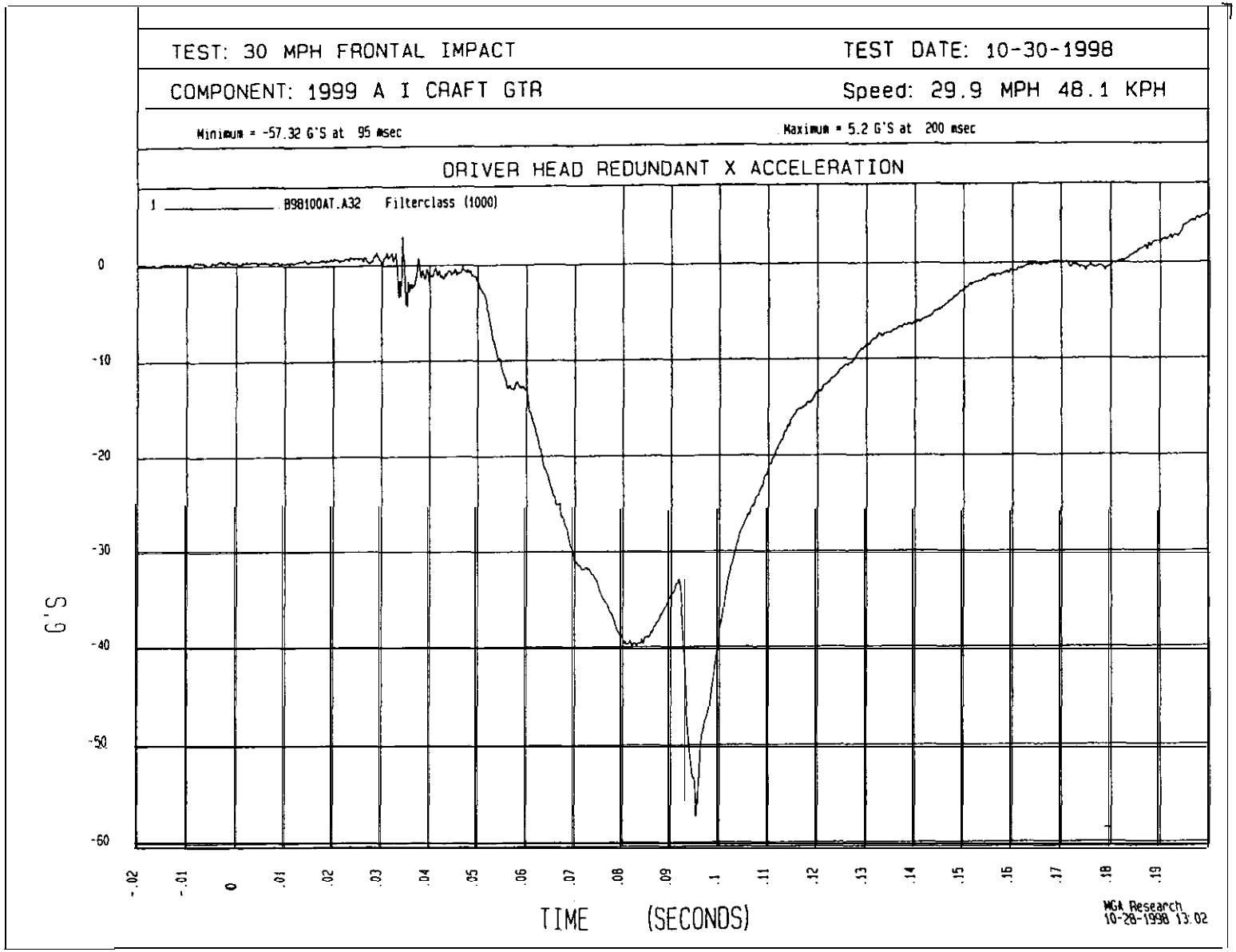

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -57.98 G'S at 95 msec
Maximum = 4.36 G'S at 198 msec
DRIVER HEAD X ACCELERATION
1 B98100AT.A12 Filterclass (1000)
0
-10
-20
-30
-40
-50
-60
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
10-28-1998 13:01

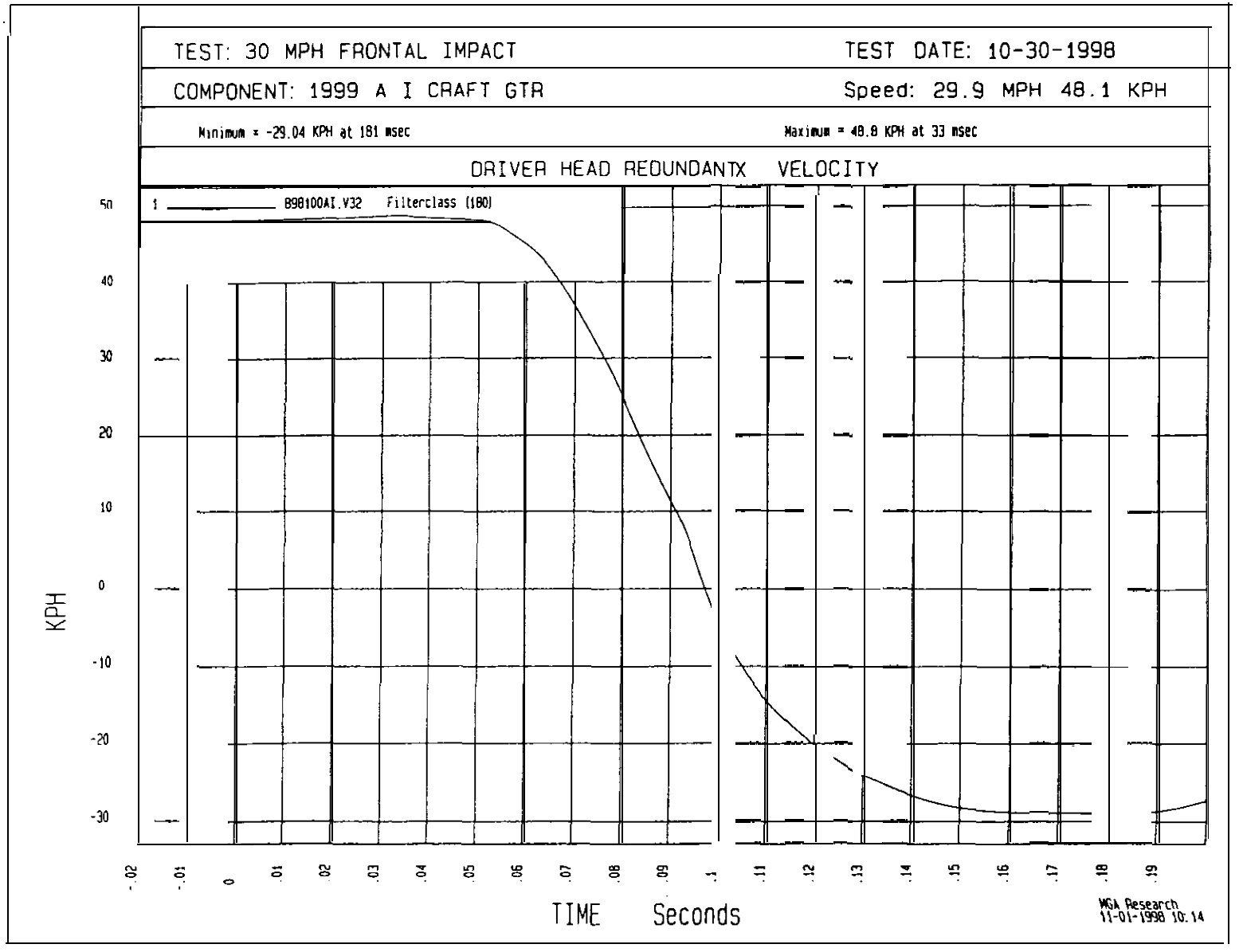

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -32.93 KPH at 183 msec
Maximum = 48.36 KPH at 33 msec
DRIVER HEAD X VELOCITY
1 _____ 898100AI.V12 FilterClass (180)
KPH
TIME Seconds
MGA Research
11-01-1998 10:14

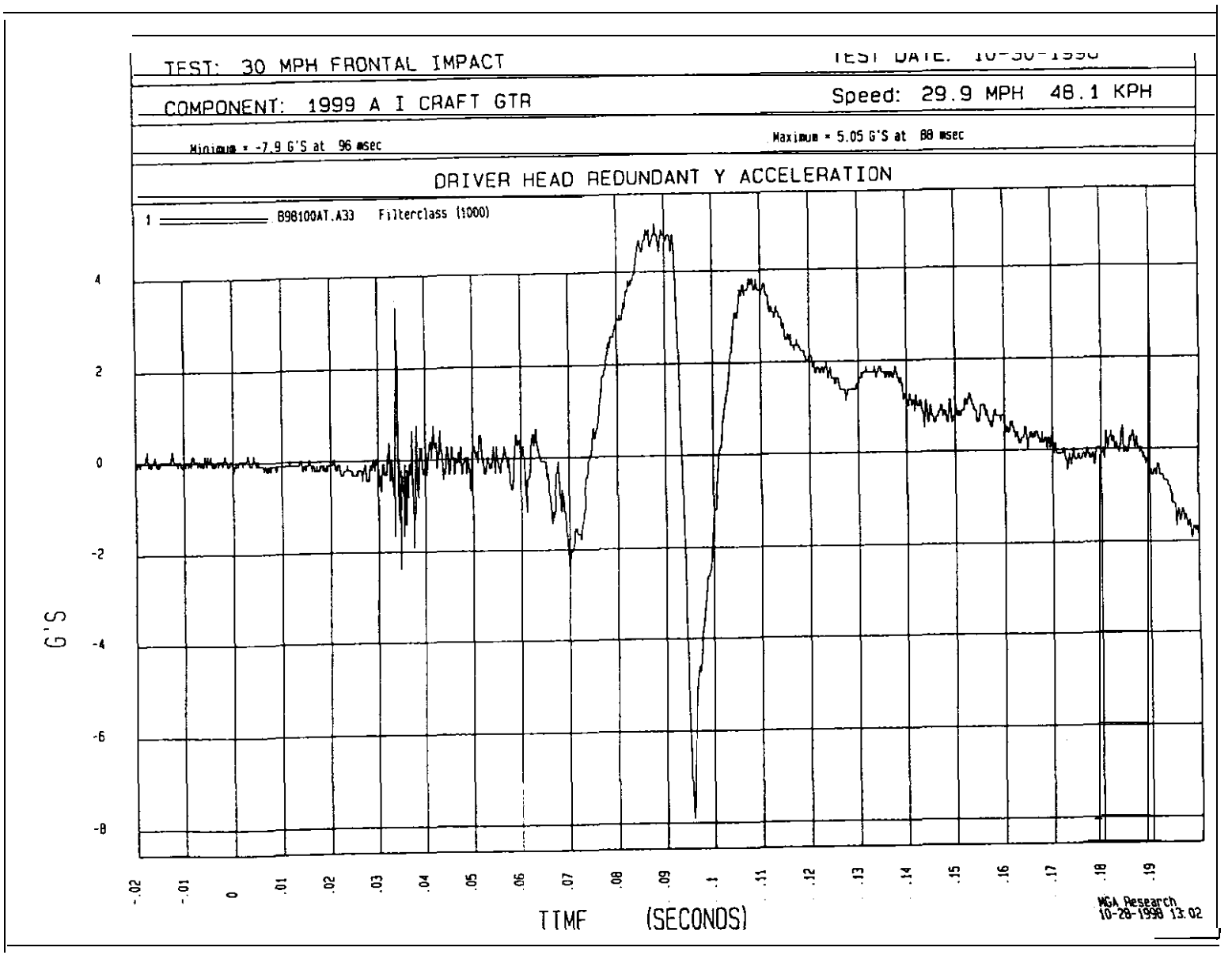

TEST: 30 MPH FRONTAL IMPACT
Speed: 29.9 MPH 48.1 KPH
Maximum = 4.62 G'S at 90 msec
Minimum = -8.87 G'S at 95 msec
DRIVER HEAD Y ACCELERATION
1 B98100AT.A13 Filterclass (1000)
4
2
0
-2
-4
-6
-8
G'S
.19
.18
.17
.16
.15
.14
.13
.12
.11
.1
.09
.08
.07
.06
.05
.04
.03
.02
.01
0
-.01
-.02
TIME (SECONDS)
MGA Research
10-28-1998 13:01

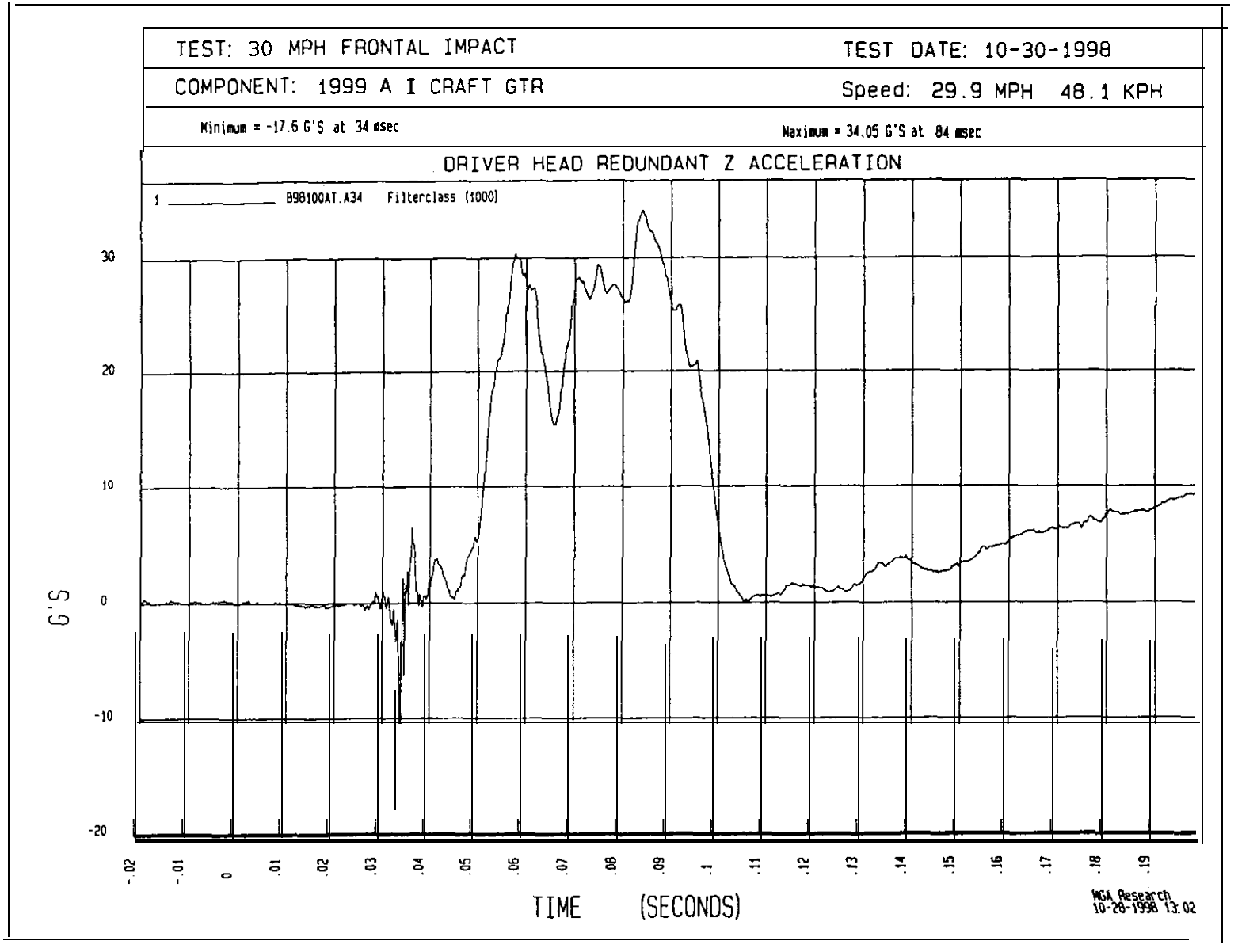

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
Speed: 29.9 MPH 48.1 KPH
DRIVER HEAD Z ACCELERATION
Minimum = -17.82 G'S at 34 msec
Maximum = 33.86 G'S at 84 msec
1 ——— 898100AT.A14 Filterclass (1000)
A
30
20
10
0
10
-20
TIME (SECONDS)
MGA Research
10-28-1998 13:01
S.9

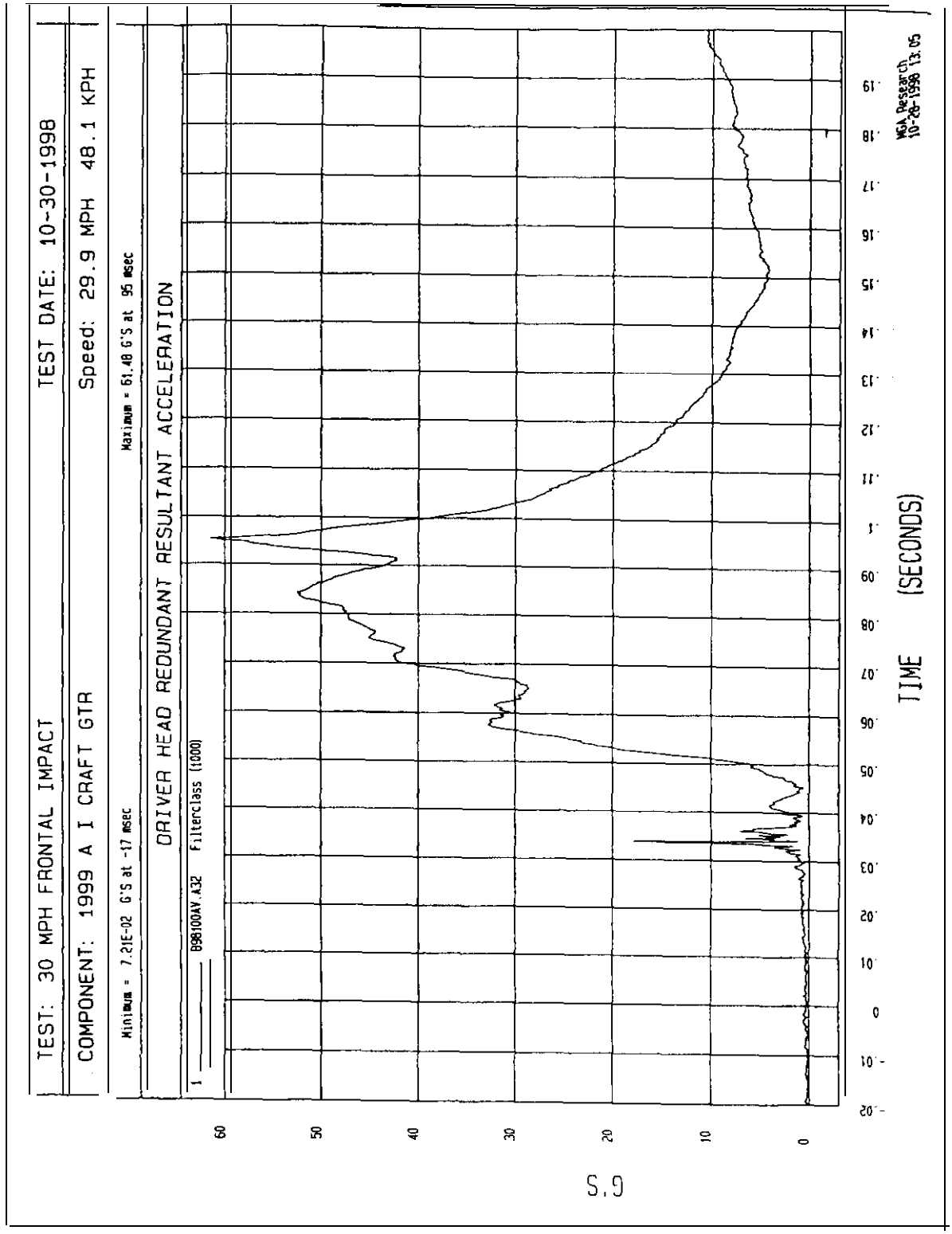

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = 8.93E-02 G'S at -19 msec
Maximum = 62.35 G'S at 95 msec
DRIVER HEAD RESULTANT ACCELERATION
1 898100AV.A12 Filterclass (1000)
G'S
60
50
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
10-28-1998 13:05

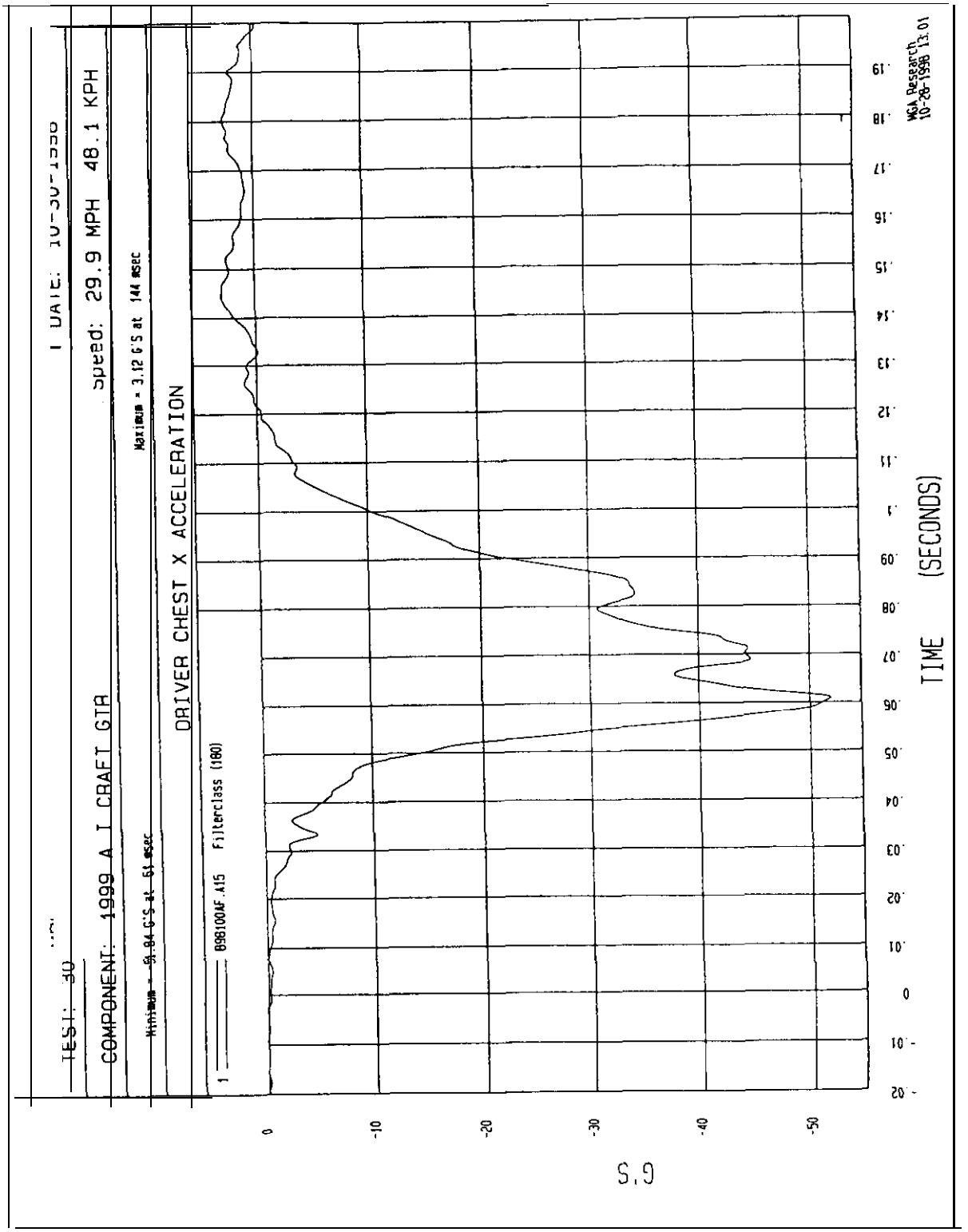

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -57.32 G'S at 95 msec
Maximum = 5.2 G'S at 200 msec
DRIVER HEAD REDUNDANT X ACCELERATION
1 B98100AT.A32 Filterclass (1000)
0
-10
-20
-30
-40
-50
-60
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
10-28-1998 13:02

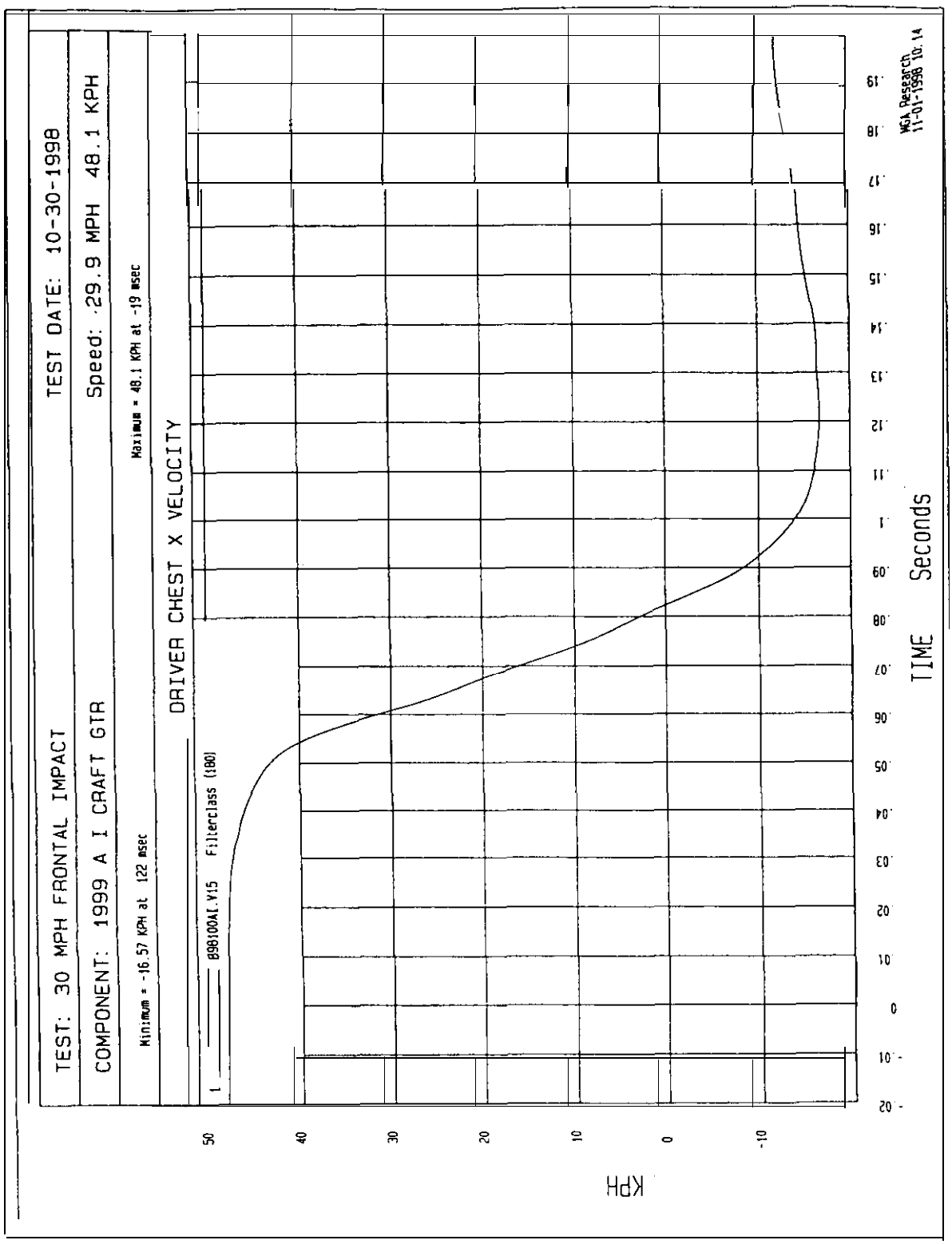

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -29.04 KPH at 181 msec
Maximum = 48.8 KPH at 33 msec
DRIVER HEAD REDUNDANTX VELOCITY
1 B98100AI.V32 Filterclass (180)
KPH
50
40
30
20
10
0
-10
-20
-30
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
11-01-1998 10:14

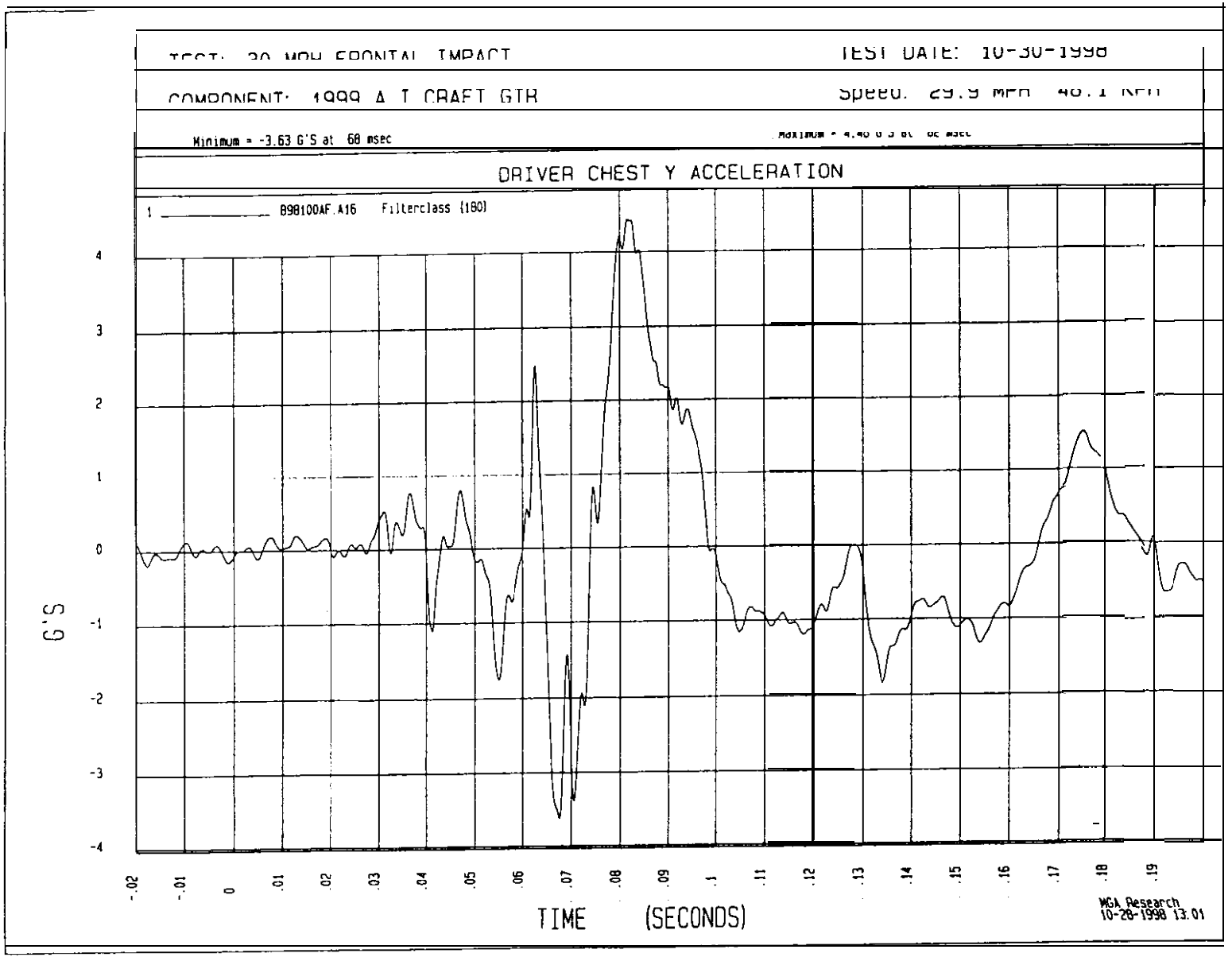

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -7.9 G'S at 96 msec
Maximum = 5.05 G'S at 80 msec
DRIVER HEAD REDUNDANT Y ACCELERATION
1 B98100AT.A33 Filterclass (1000)
G'S
4
2
0
-2
-4
-6
-8
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
10-28-1998 13:02

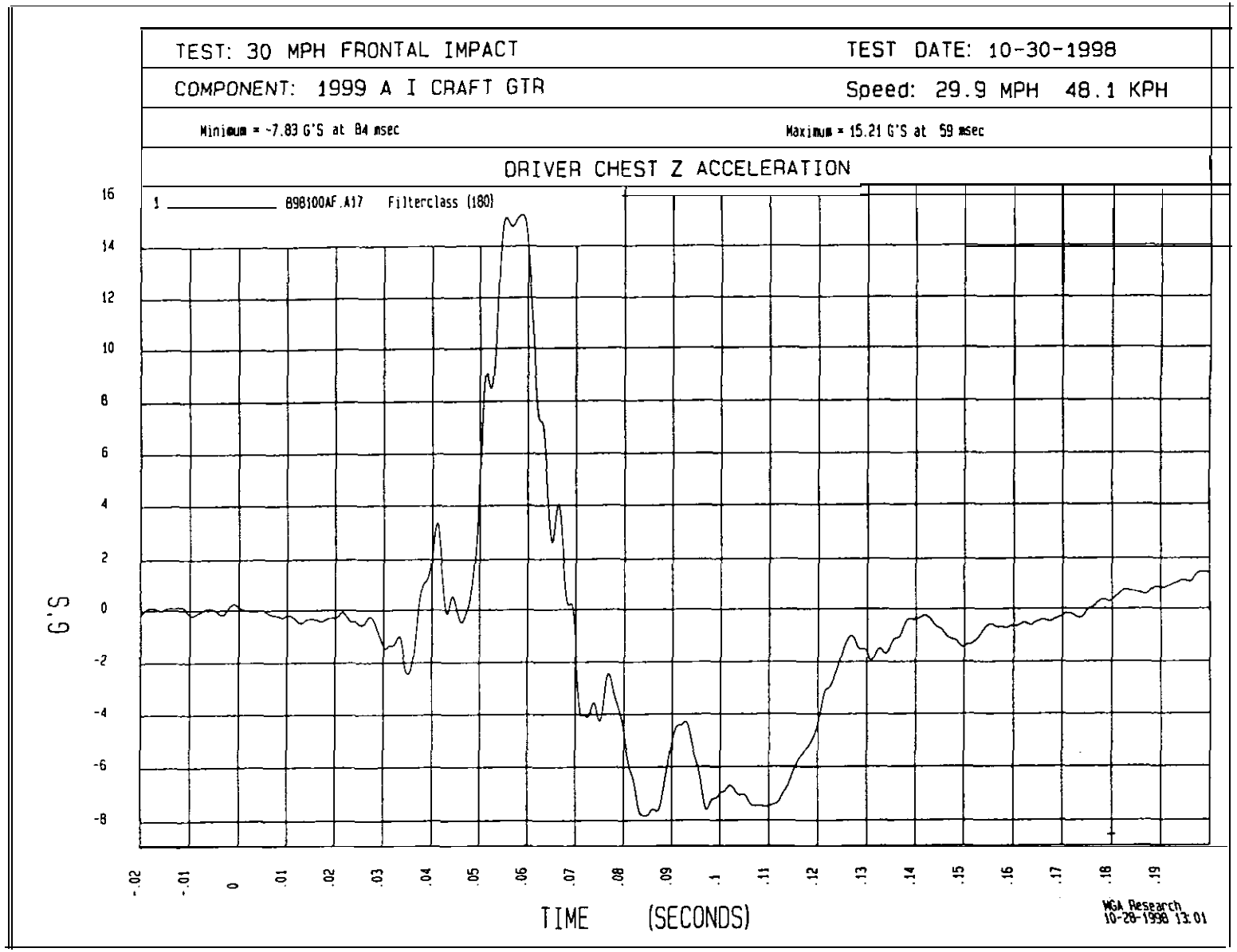

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -17.6 G'S at 34 msec
Maximum = 34.05 G'S at 84 msec
DRIVER HEAD REDUNDANT Z ACCELERATION
1 B98100AT.A34 Filterclass (1000)
30
20
10
0
-10
-20
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
10-28-1998 13:02

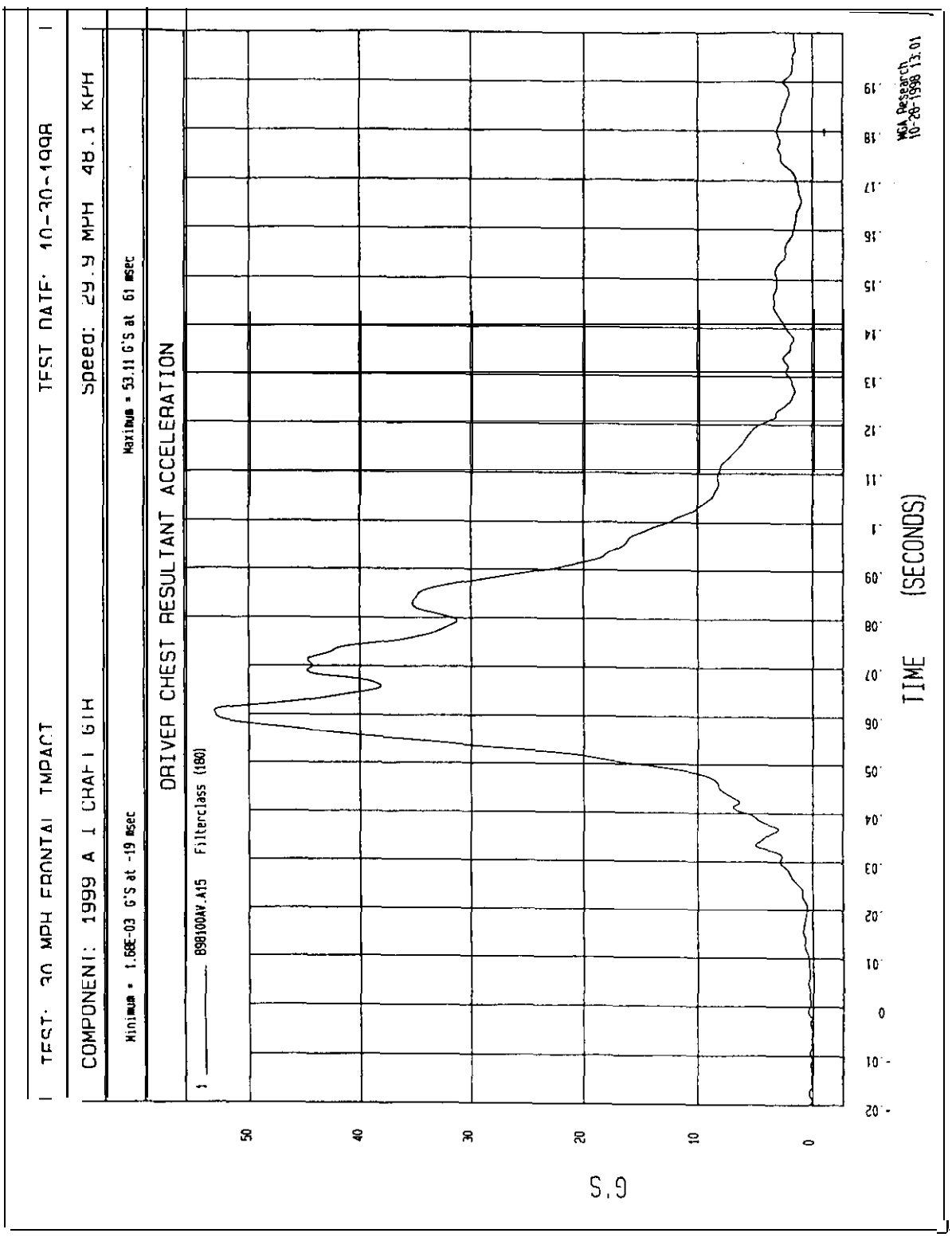

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
DRIVER HEAD REDUNDANT RESULTANT ACCELERATION
Minimum = 7.21E-02 G'S at -17 msec
Maximum = 61.48 G'S at 95 msec
1 B98100AV.A32 Filterclass (1000)
60
50
40
30
20
10
0
G'S
TIME (SECONDS)
MGA Research
10-28-1998 13:05

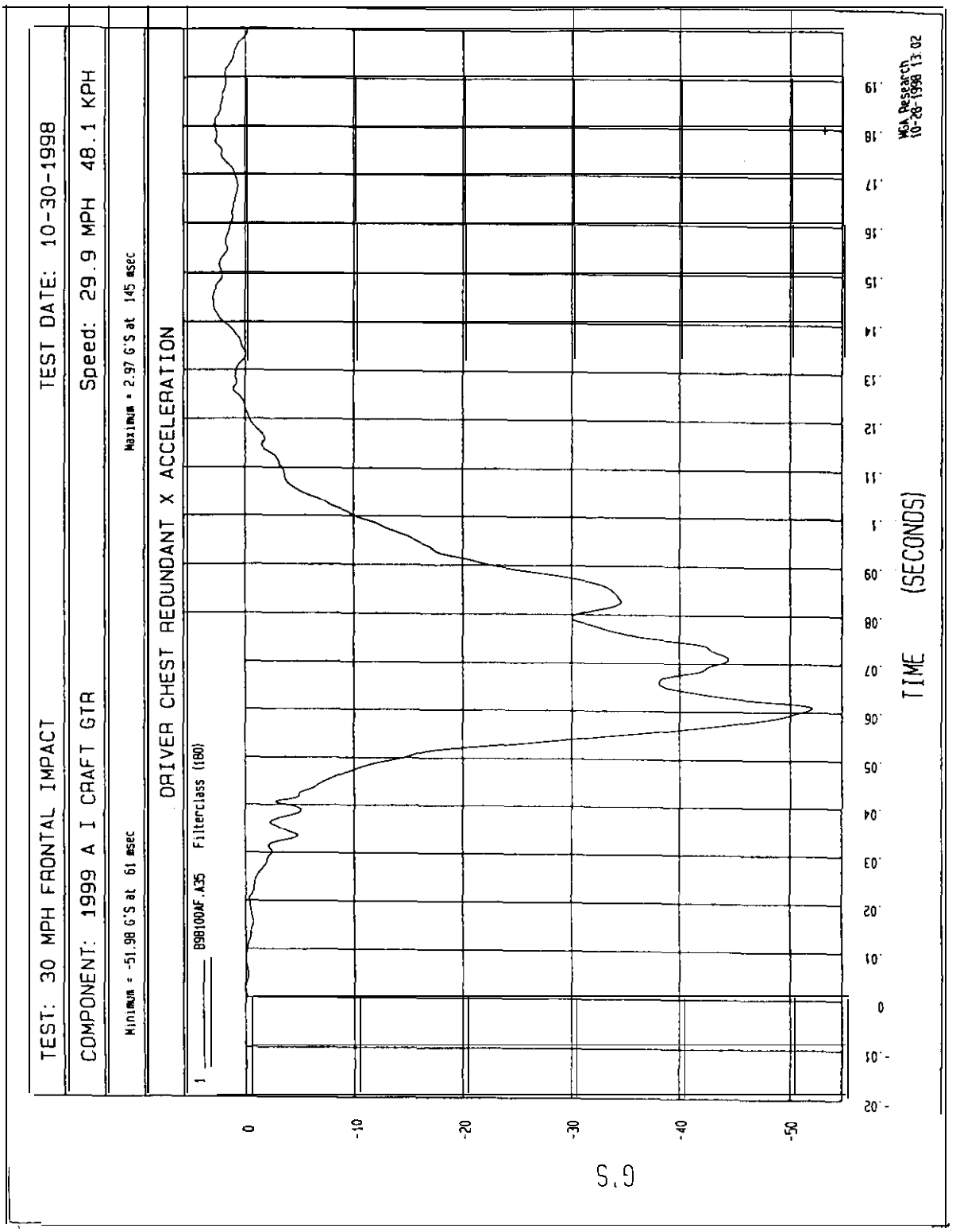

TEST: 30
COMPONENT: 1999 A I CRAFT GTA
Speed: 29.9 MPH 48.1 KPH
Maximum = 3.12 G's at 144 msec
Minimum = -51.84 G's at 61 msec
DRIVER CHEST X ACCELERATION
1 ____ 0981006AF.A15 Filterclass (180)
MGA Research
10-28-1998 13:01
0
-10
-20
-30
-40
-50
TIME (SECONDS)
.19
.18
.17
.16
.15
.14
.13
.12
.11
.1
.09
.08
.07
.06
.05
.04
.03
.02
.01
0
-.01
-.02
G's

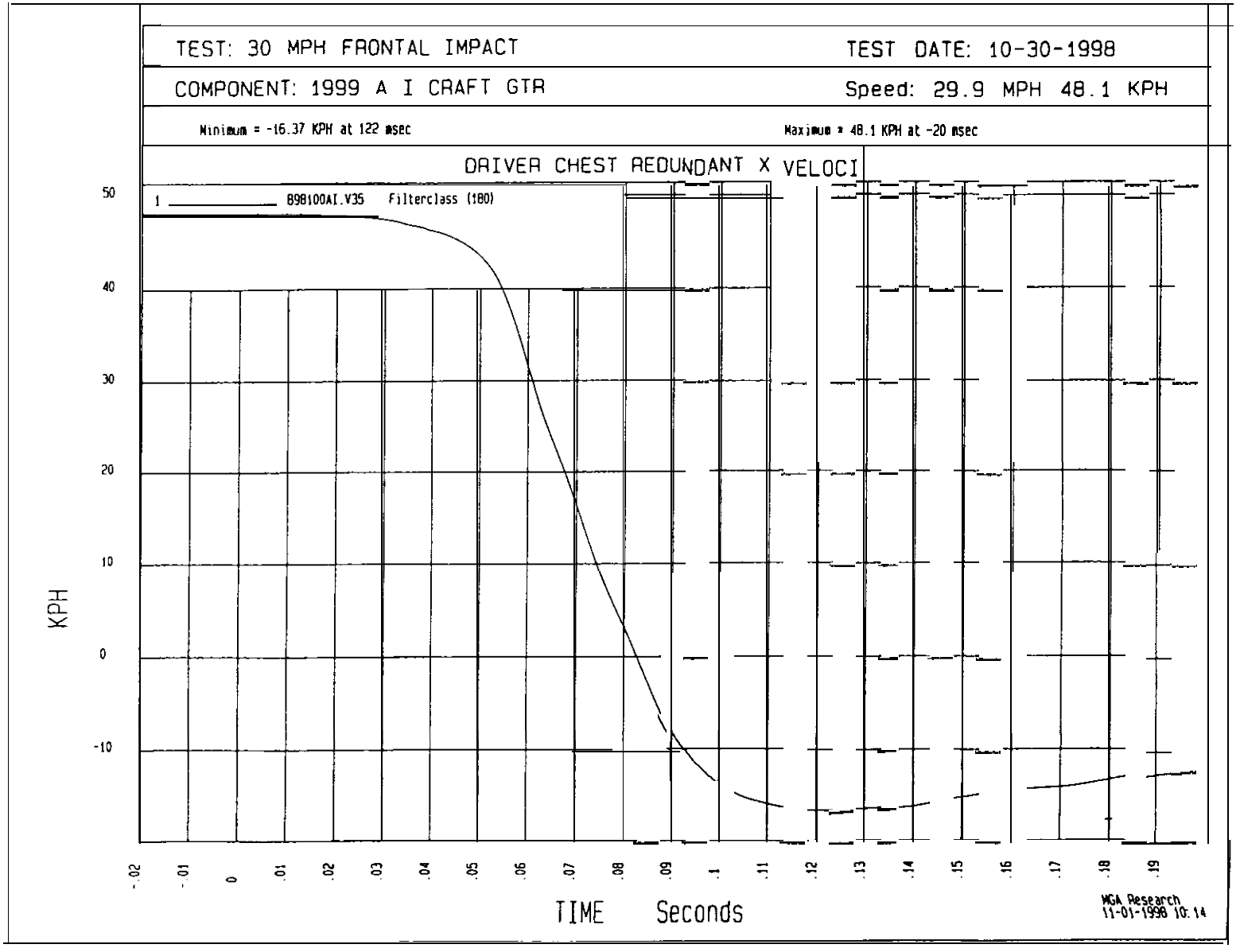

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -16.57 KPH at 122 msec
Maximum = 48.1 KPH at -19 msec
DRIVER CHEST X VELOCITY
1 ——— 898100AI.V15 Filterclass (180)
KPH
TIME Seconds
WSA Research
11-01-1998 10:14


TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A T CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -3.63 G'S at 68 msec
DRIVER CHEST Y ACCELERATION
1 _____ 898100AF.A16 Filterclass (180)
G'S
4
3
2
1
0
-1
-2
-3
-4
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
10-28-1998 13:01


TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -7.83 G'S at 84 msec
Maximum = 15.21 G'S at 59 msec
DRIVER CHEST Z ACCELERATION
1 898100AF.A17 Filterclass (180)
16
14
12
10
8
6
4
2
0
-2
-4
-6
-8
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
10-28-1998 13:01


TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CHART 61H
Speed: 29.9 MPH 48.1 KPH
Minimum = 1.68E-03 G'S at -19 msec
Maximum = 53.11 G'S at 61 msec
DRIVER CHEST RESULTANT ACCELERATION
1 ——— 898100AV.A15 Filterclass (180)
MGA Research
10-26-1998 13:01
50
40
30
20
10
0
TIME (SECONDS)
S.9


TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -51.98 G'S at 61 msec
Maximum = 2.97 G'S at 145 msec
DRIVER CHEST REDUNDANT X ACCELERATION
1 B98100AF.A35 Filterclass (180)
MGA Research
10-28-1998 13:02
TIME (SECONDS)
G's


TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -16.37 KPH at 122 msec
Maximum = 48.1 KPH at -20 msec
DRIVER CHEST REDUNDANT X VELOCI
1 B98100AI.V35 Filterclass (180)
KPH
50
40
30
20
10
0
-10
-.02
-.01
0
.01
.02
.03
.04
.05
.06
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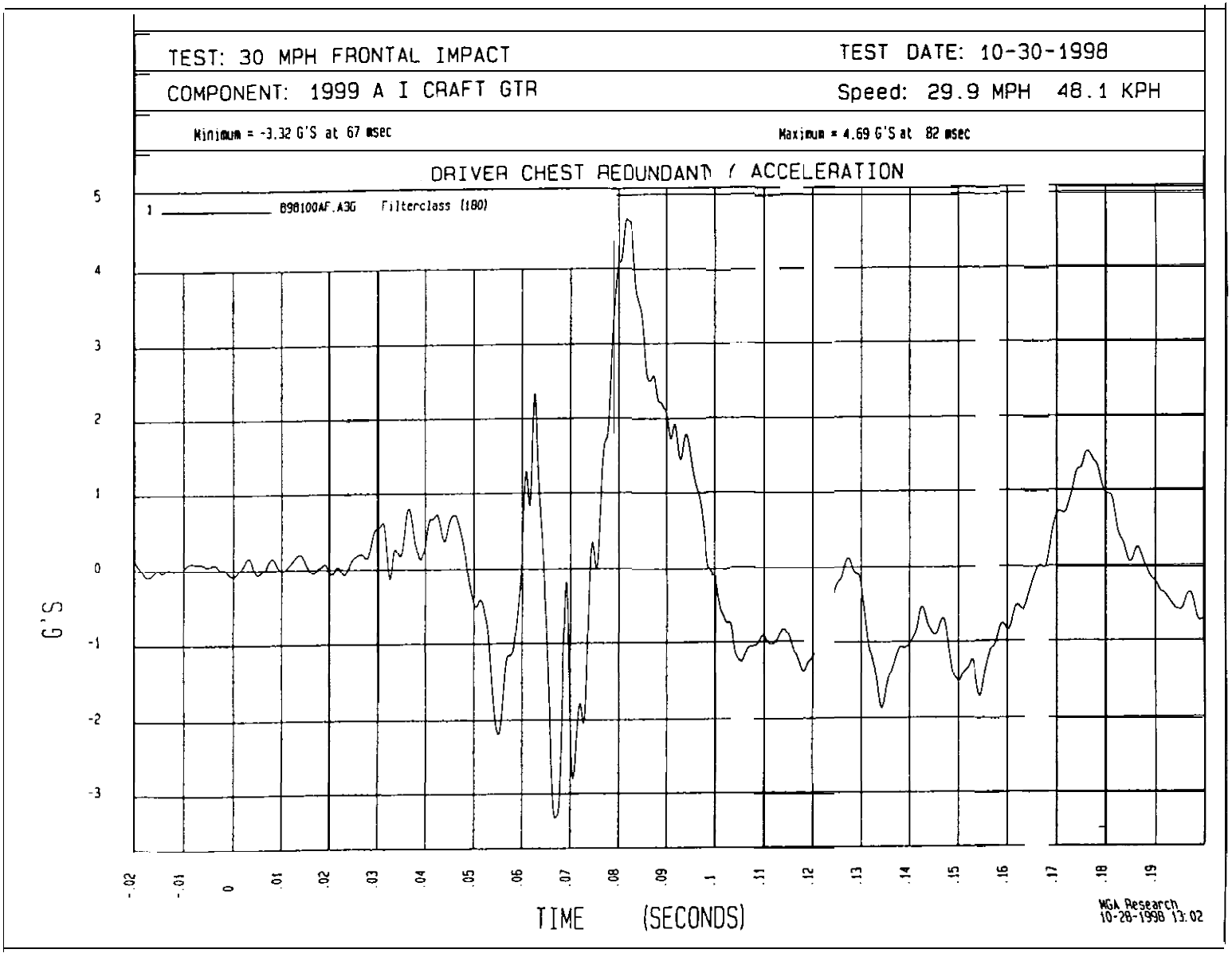
.17
.18
.19
TIME Seconds
MGA Research
11-01-1998 10:14


TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -3.32 G'S at 67 msec
Maximum = 4.69 G'S at 82 msec
DRIVER CHEST REDUNDANT Y ACCELERATION
1 B98100AF.A3G Filterclass (180)
5
4
3
2
1
0
-1
-2
-3
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
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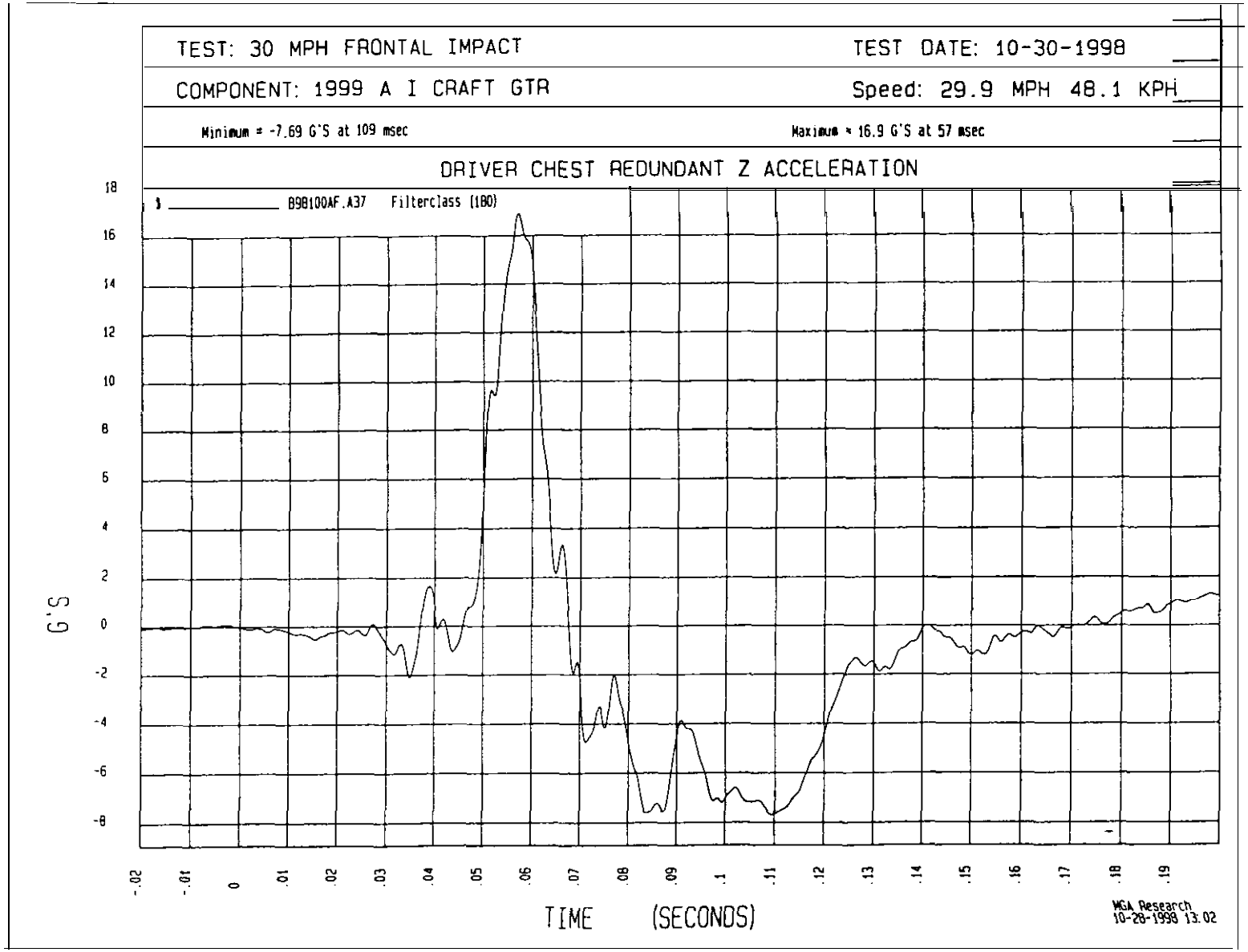
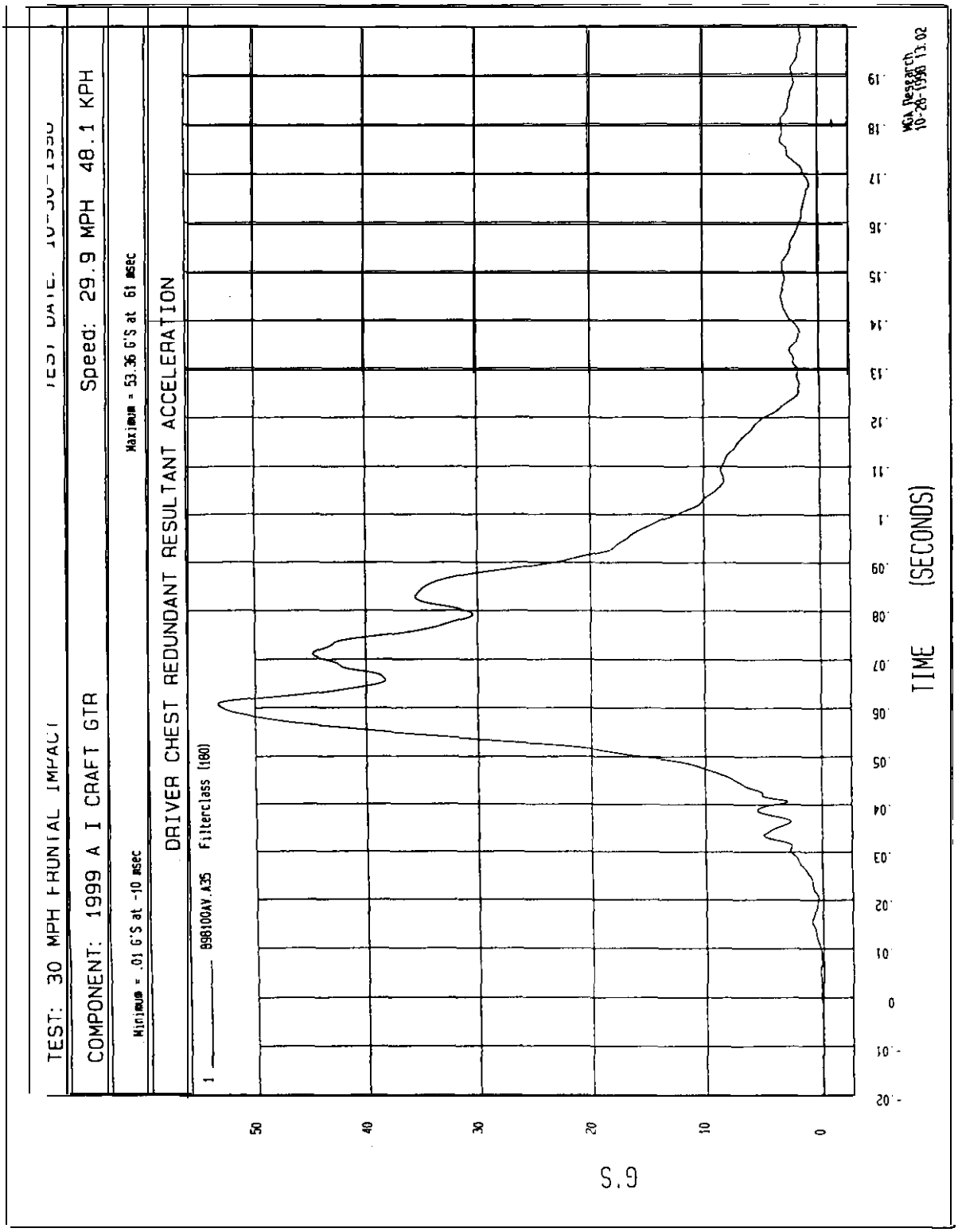
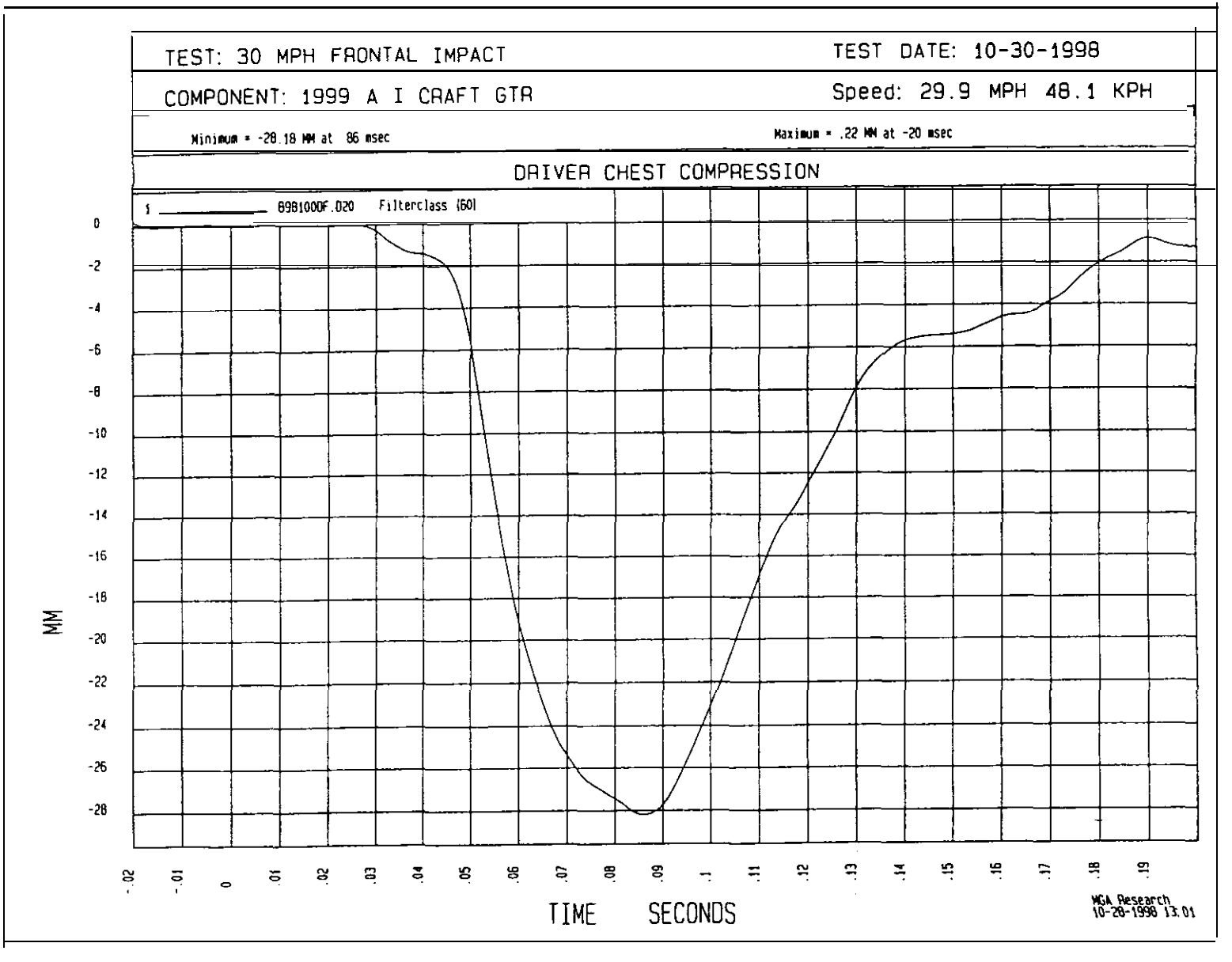
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
WGA Research
10-28-1998 13:02


TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -7.69 G'S at 109 msec
Maximum = 16.9 G'S at 57 msec
DRIVER CHEST REDUNDANT Z ACCELERATION
1 B98100AF.A37 Filterclass (180)
18
16
14
12
10
8
6
4
2
0
-2
-4
-6
-8
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
10-28-1998 13:02


TEST: 30 MPH FRONTAL IMPACT
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Maximum = 53.36 G's at 61 msec
Minimum = .01 G's at -10 msec
DRIVER CHEST REDUNDANT RESULTANT ACCELERATION
1 898100AV.A35 Filterclass (180)
MGA Research
10-28-1998 13:02
50
40
30
20
10
0
-10
-20
01
02
03
04
05
06
07
08
09
1
11
12
13
14
15
16
17
18
19
TIME (SECONDS)
S.9


TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -28.18 MM at 86 msec
Maximum = .22 MM at -20 msec
DRIVER CHEST COMPRESSION
1 8981000F.020 Filterclass (60)
MM
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-22
-24
-26
-28
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
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.11
.12
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.14
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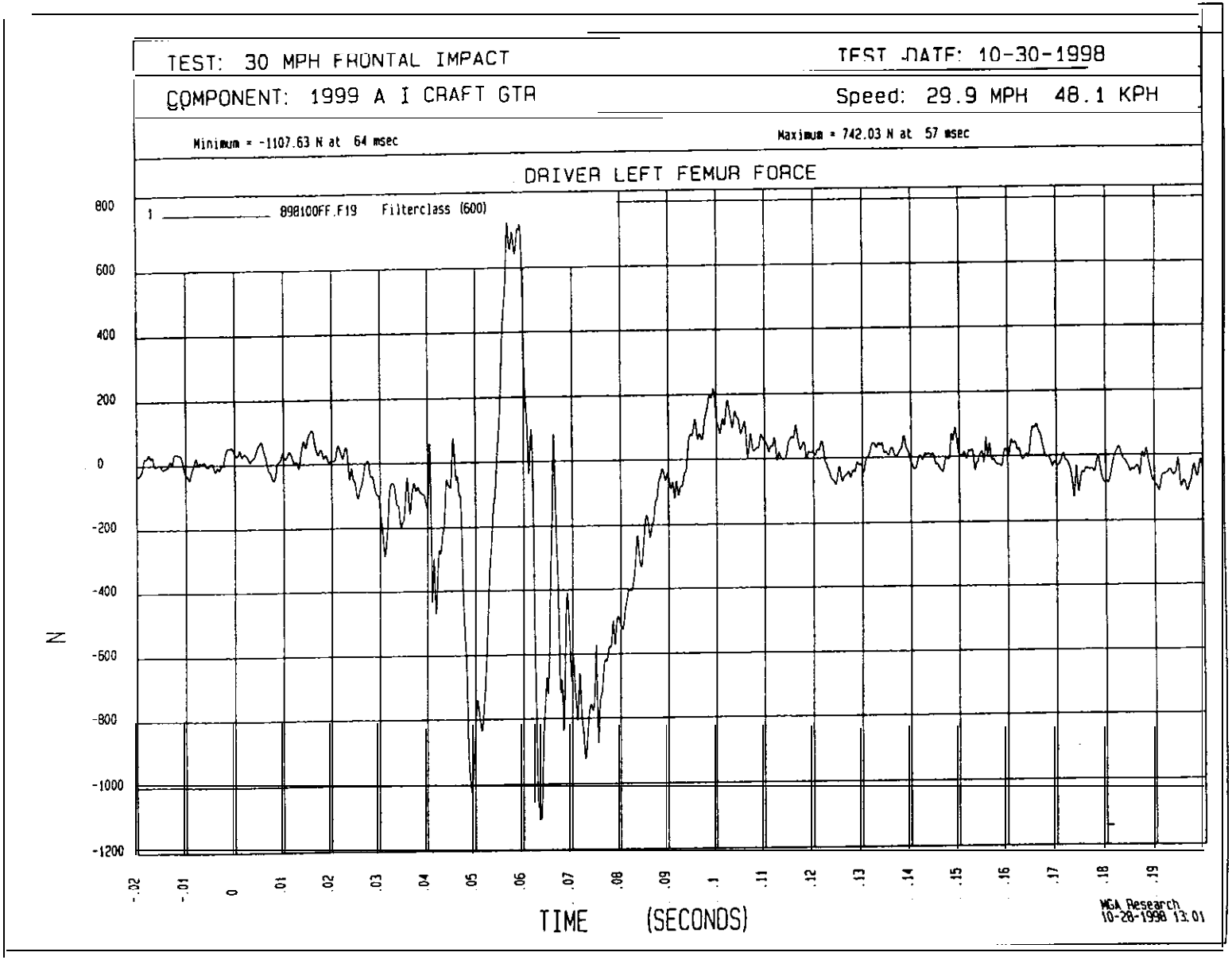
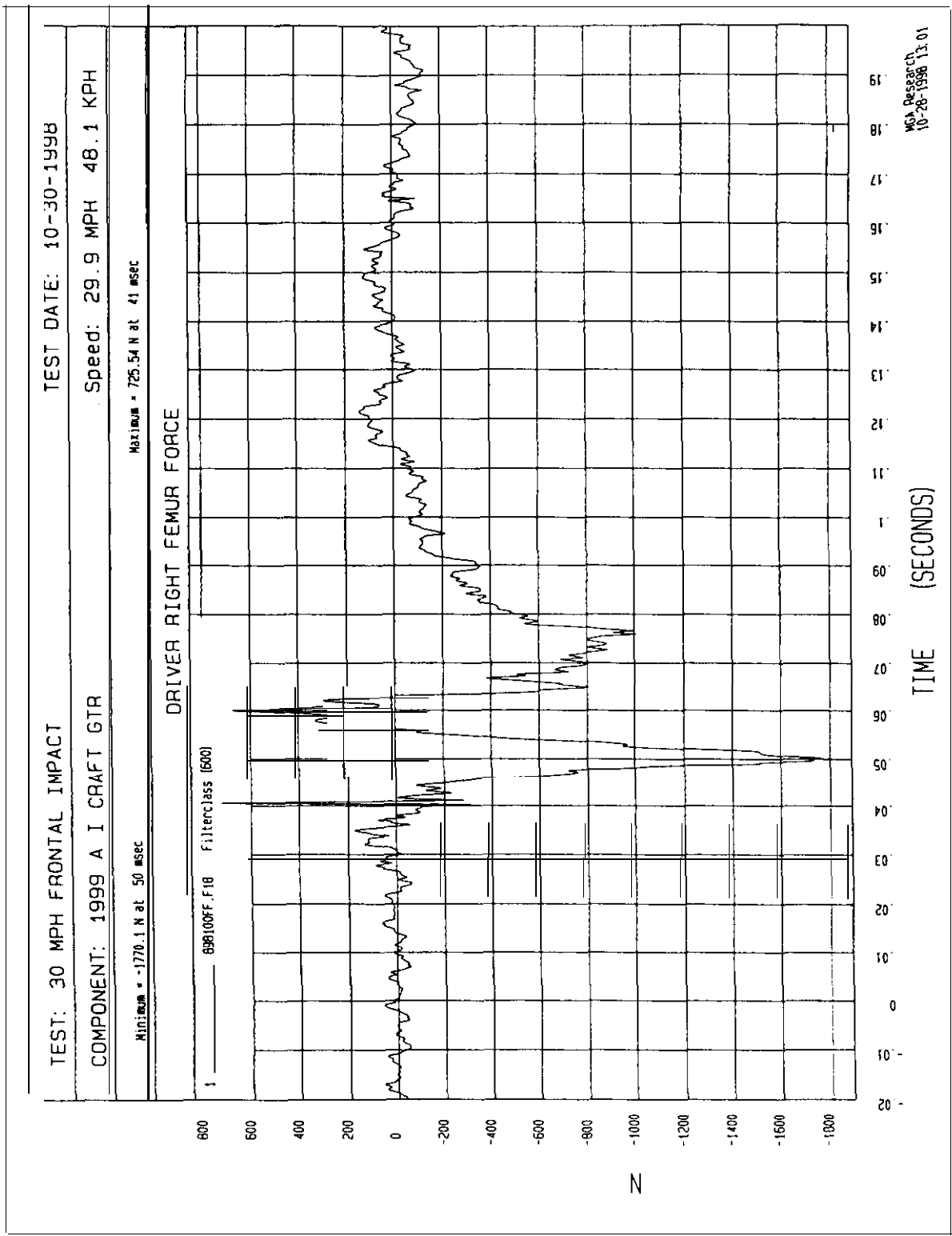
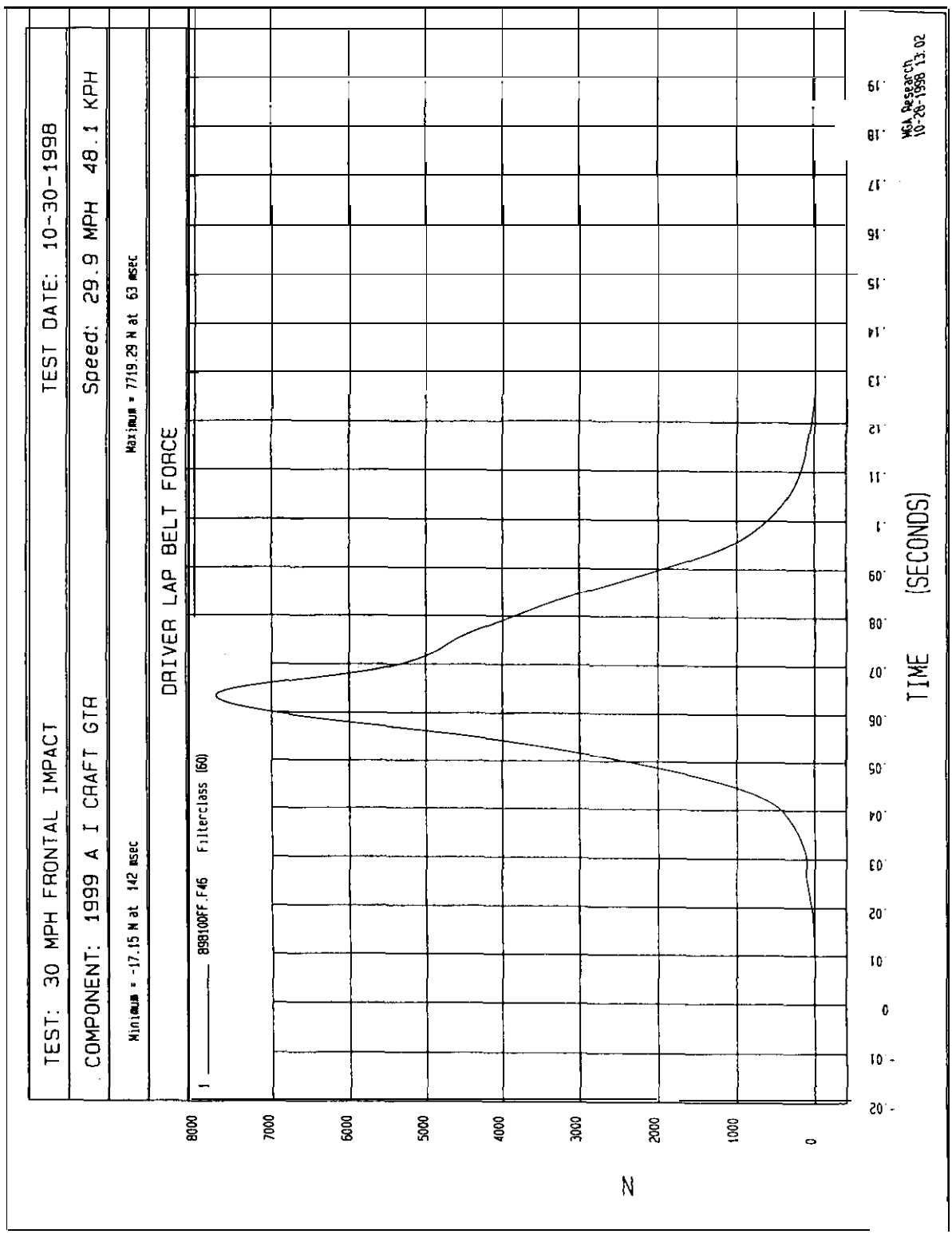
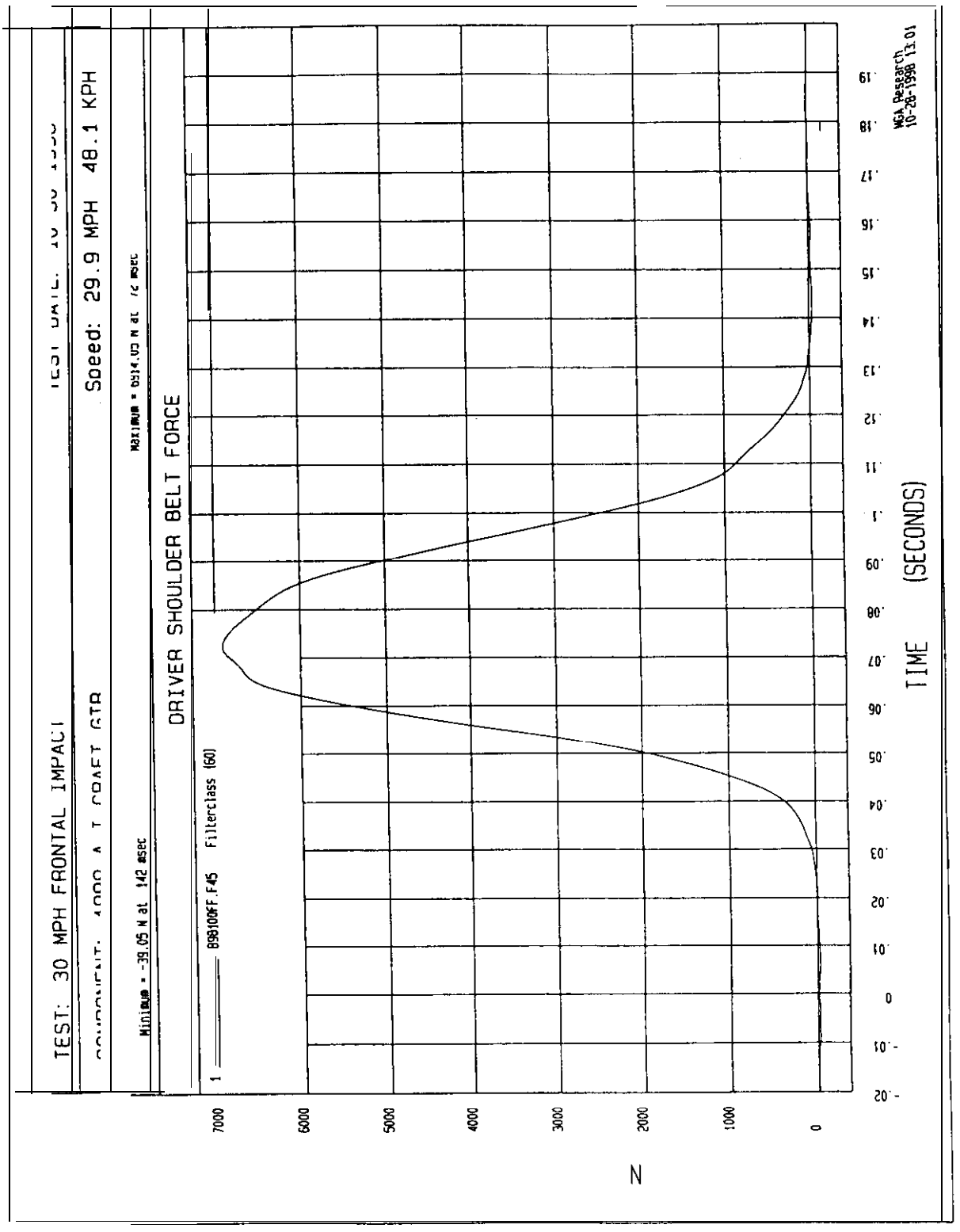
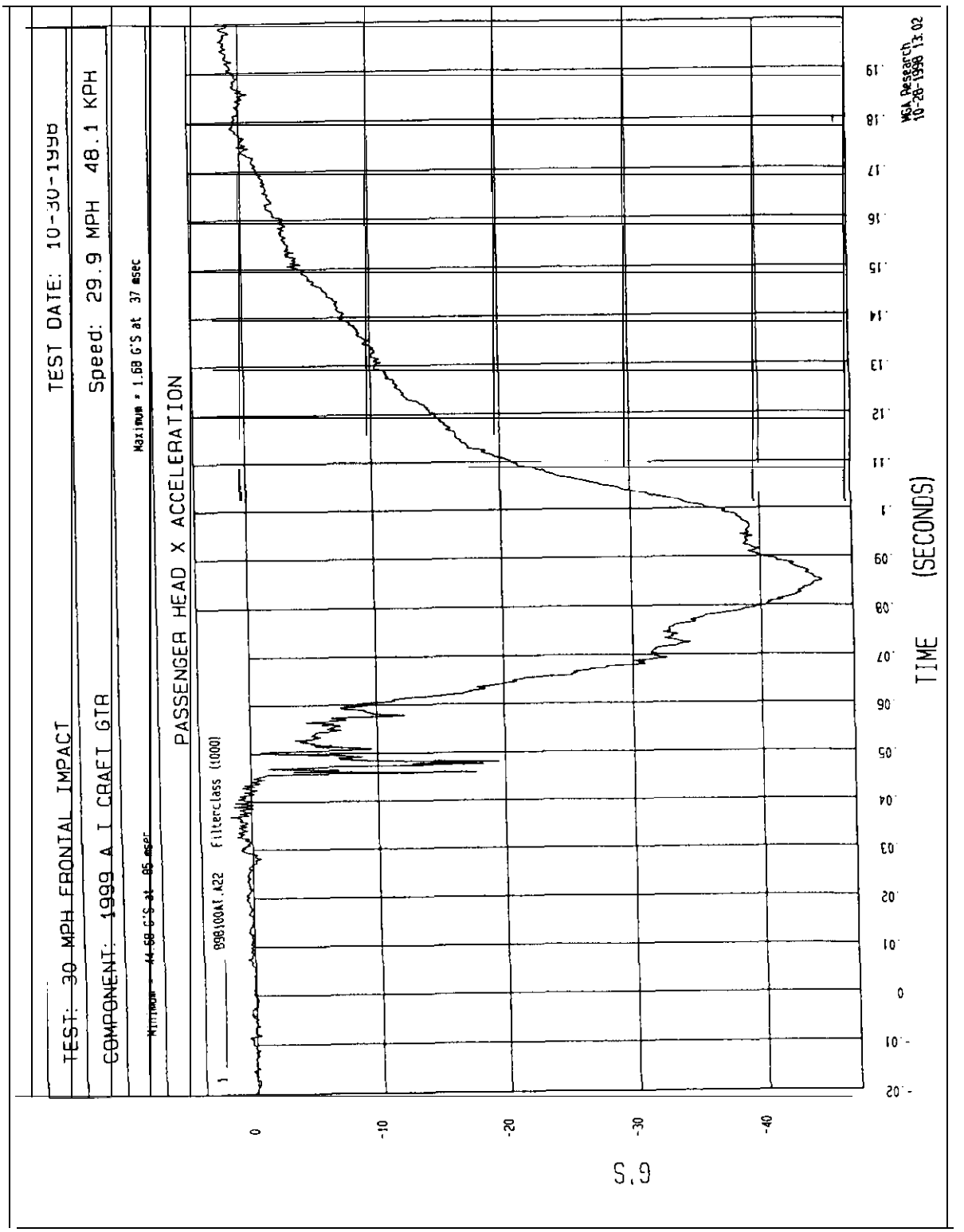
.18
.19
TIME SECONDS
MGA Research
10-28-1998 13:01

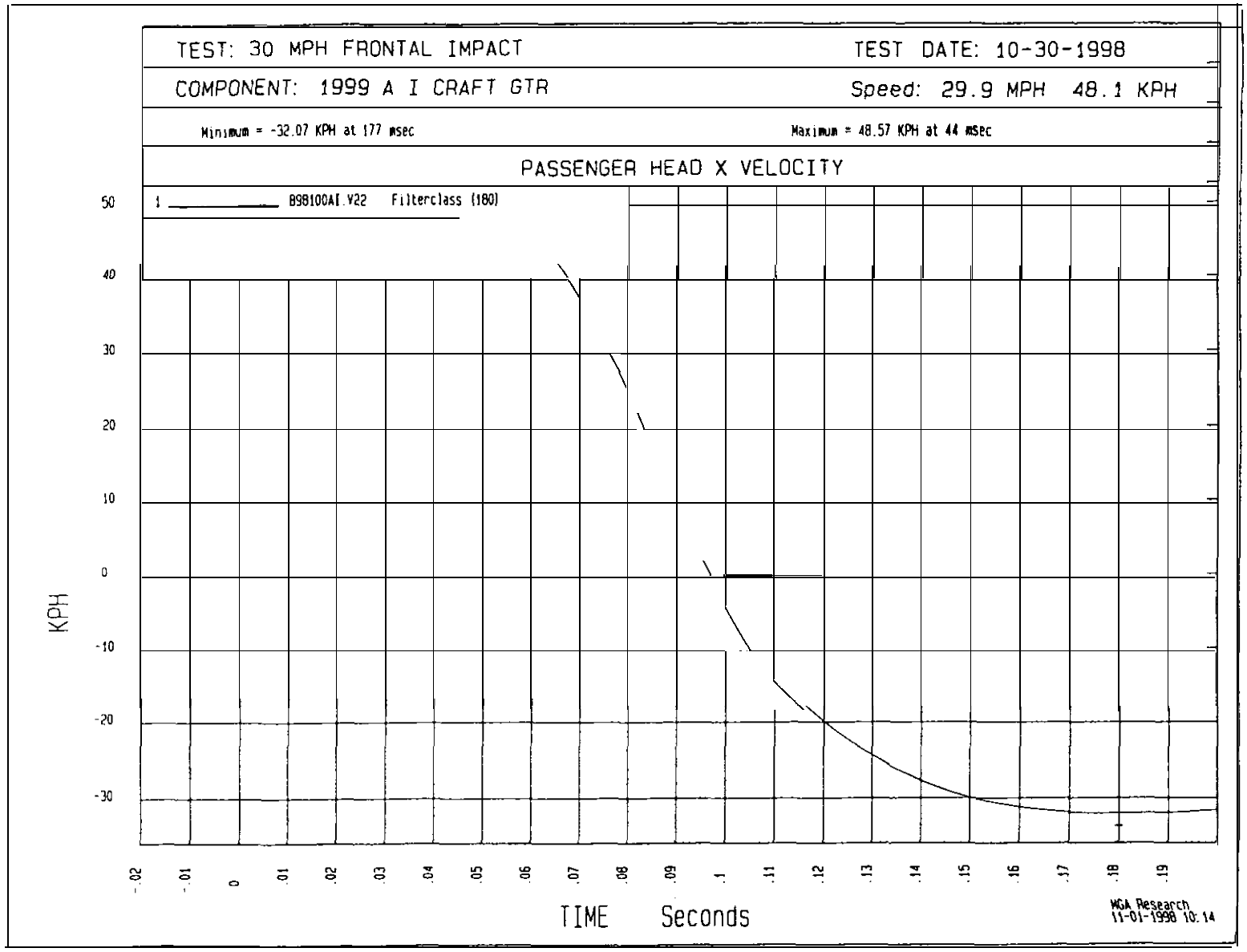

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -1107.63 N at 64 msec
Maximum = 742.03 N at 57 msec
DRIVER LEFT FEMUR FORCE
1 898100FF.F19 Filterclass (600)
800
600
400
200
0
-200
-400
-600
-800
-1000
-1200
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
10-28-1998 13:01

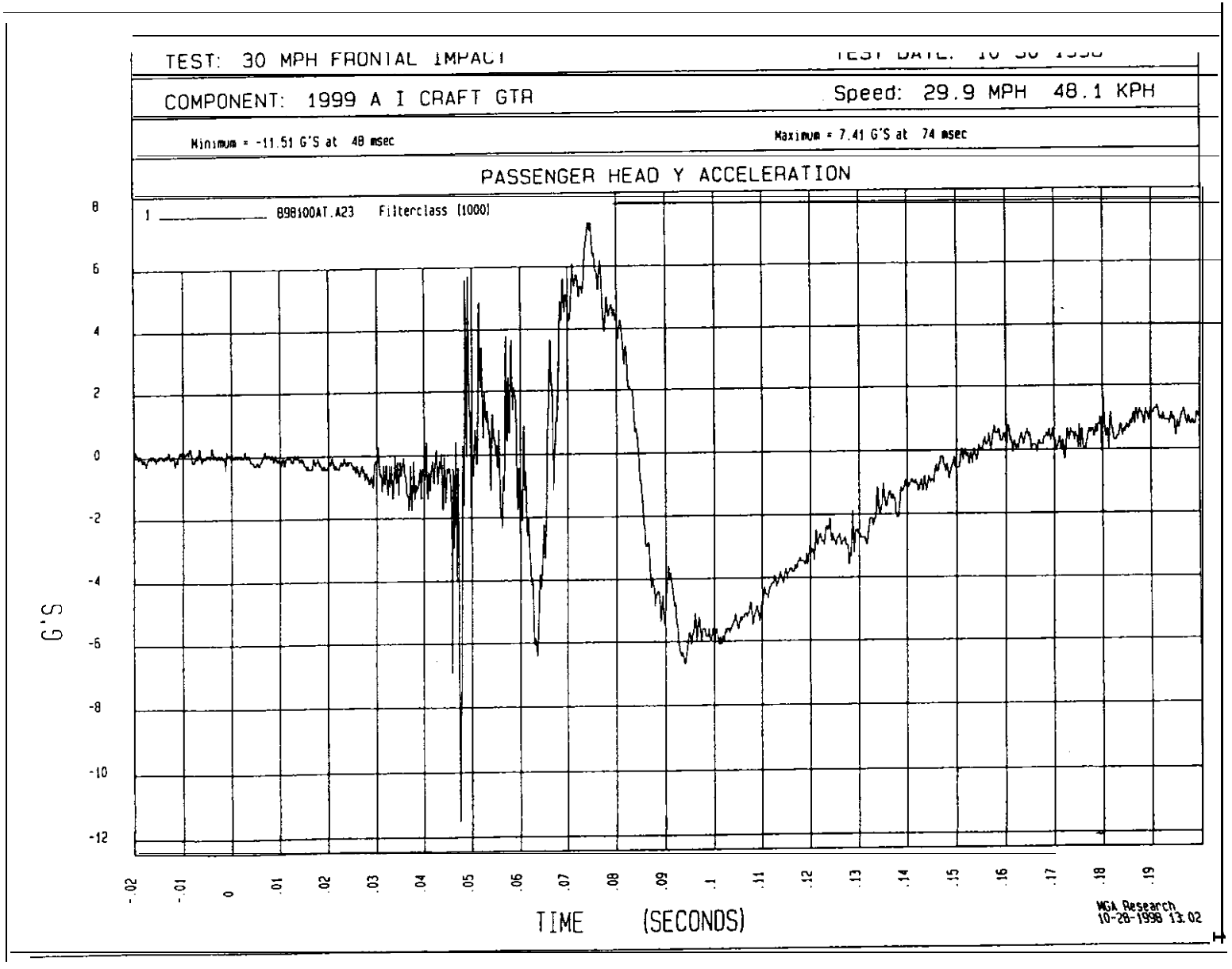

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -1770.1 N at 50 msec
Maximum = 725.54 N at 41 msec
DRIVER RIGHT FEMUR FORCE
1 ——— 8981009F.F18 Filterclass (600)
800
600
400
200
0
-200
-400
-600
-800
-1000
-1200
-1400
-1600
-1800
N
TIME (SECONDS)
MGA Research
10-28-1998 13:01

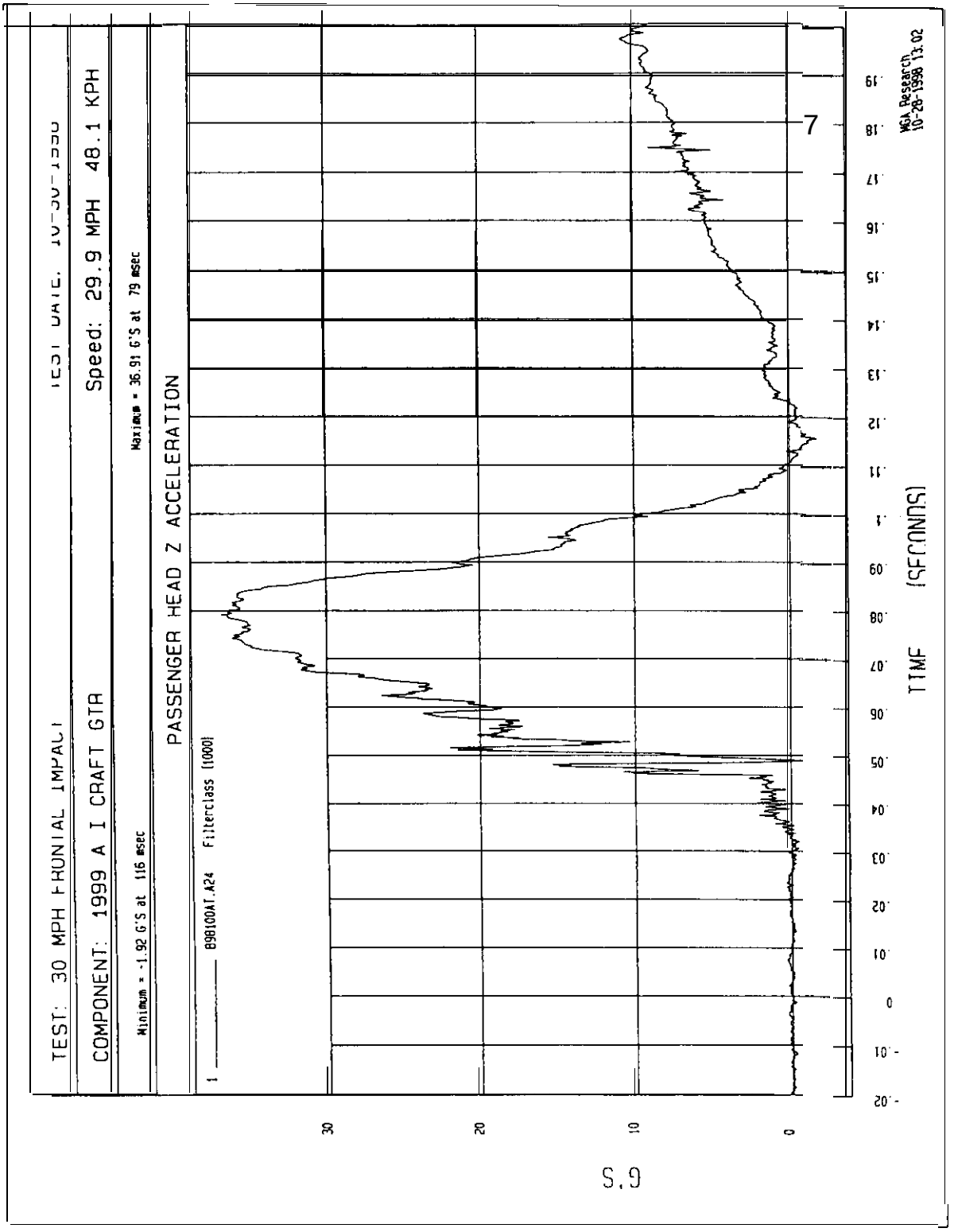

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -17.15 N at 142 msec
Maximum = 7719.29 N at 63 msec
DRIVER LAP BELT FORCE
1 898100FF.F46 Filterclass (60)
8000
7000
6000
5000
4000
3000
2000
1000
0
N
TIME (SECONDS)
MGA Research
10-28-1998 13:02

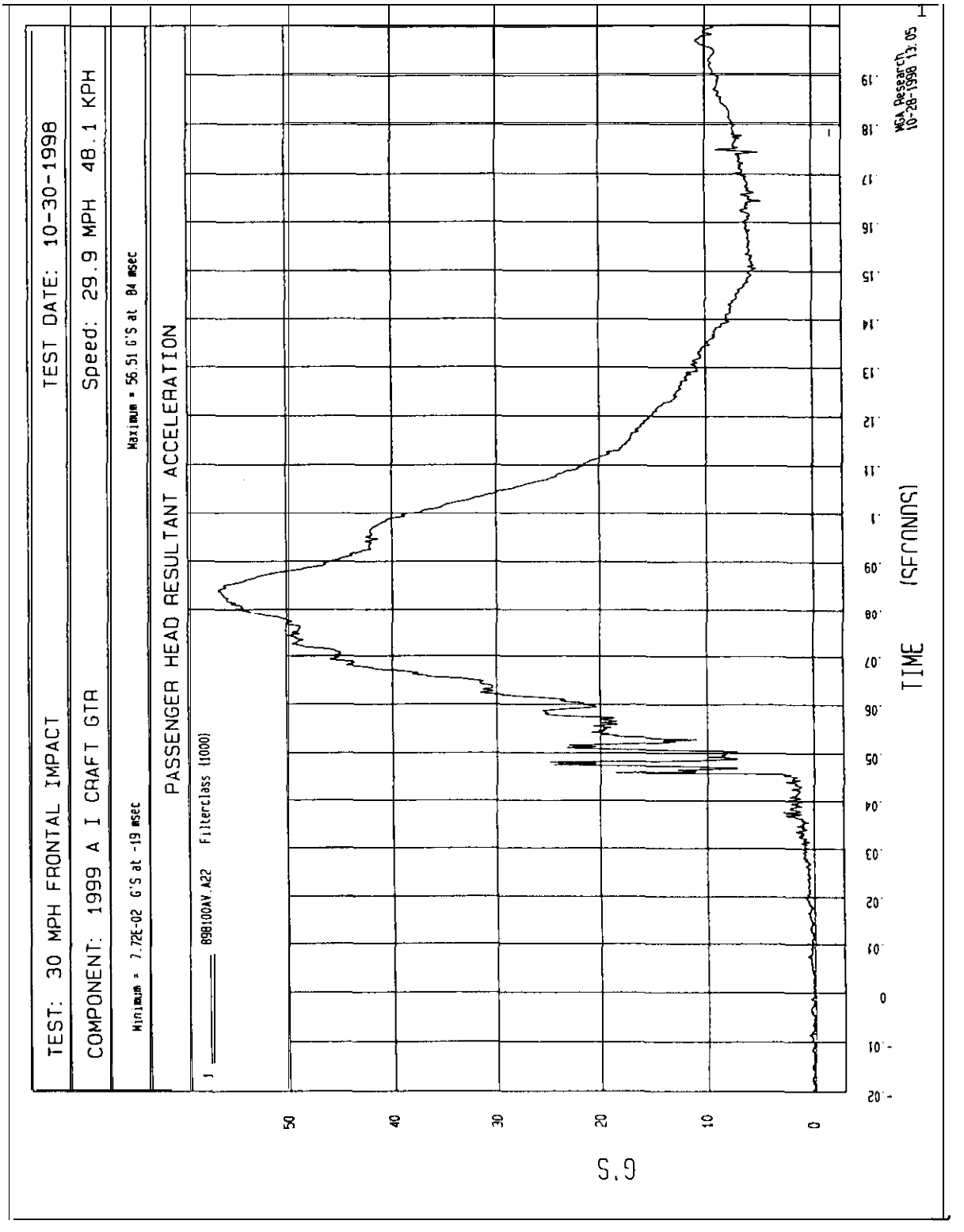

TEST: 30 MPH FRONTAL IMPACT
Speed: 29.9 MPH 48.1 KPH
DRIVER SHOULDER BELT FORCE
B98100FF.F45 Filterclass (60)
N
TIME (SECONDS)
MGA Research
10-26-1998 13:01

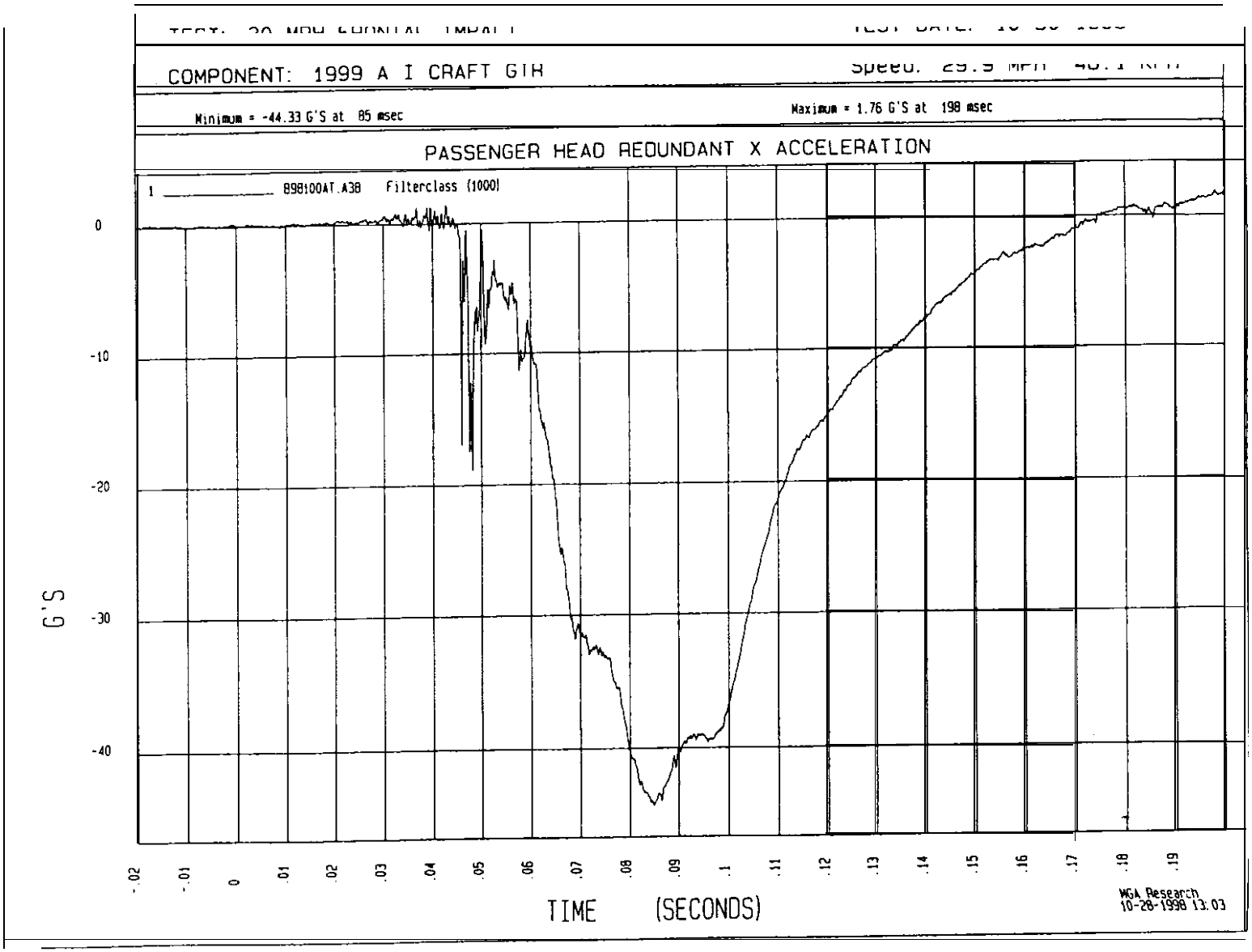

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Maximum = 1.68 G'S at 37 msec
PASSENGER HEAD X ACCELERATION
MGA Research
10-28-1998 13:02
TIME (SECONDS)
S.9

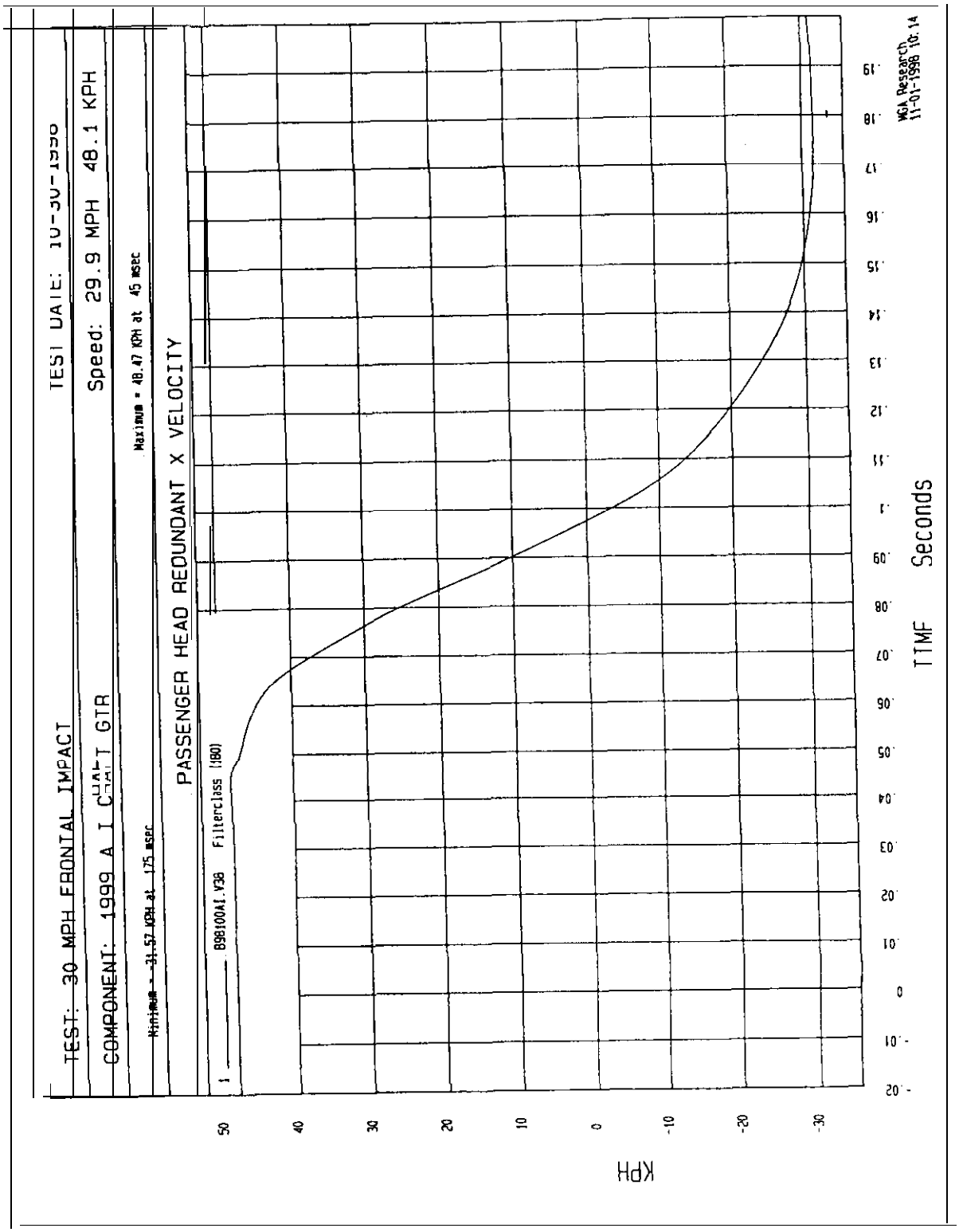

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -32.07 KPH at 177 msec
Maximum = 48.57 KPH at 44 mSec
PASSENGER HEAD X VELOCITY
1 B98100AI.V22 Filterclass (180)
50
40
30
20
10
0
-10
-20
-30
KPH
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
11-01-1998 10:14

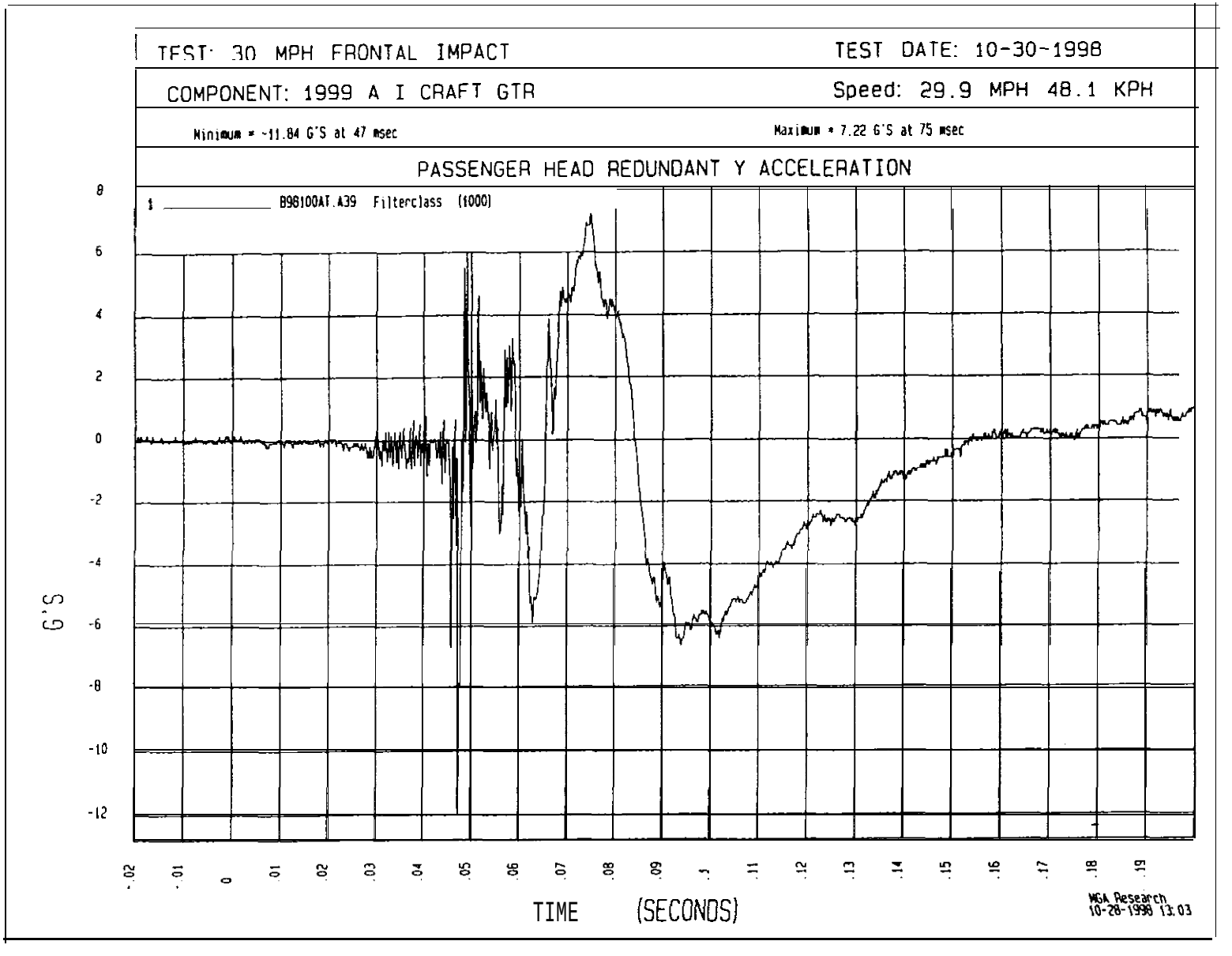

TEST: 30 MPH FRONTAL IMPACT
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -11.51 G'S at 48 msec
Maximum = 7.41 G'S at 74 msec
PASSENGER HEAD Y ACCELERATION
1 898100AT.A23 Filterclass (1000)
8
6
4
2
0
-2
-4
-6
-8
-10
-12
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
WGA Research
10-28-1998 13:02

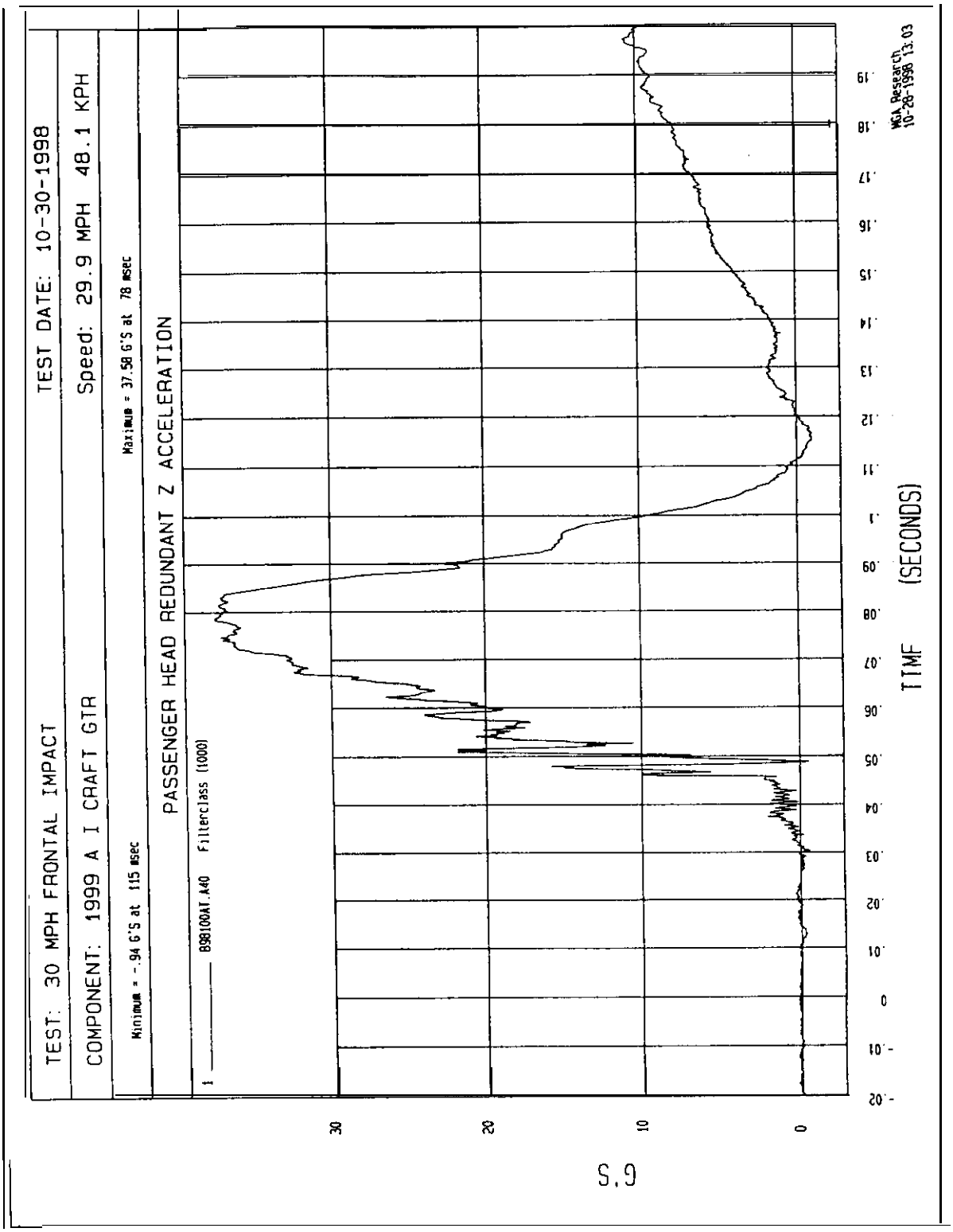

TEST: 30 MPH FRONTAL IMPACT
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -1.92 G'S at 116 msec
Maximum = 36.91 G'S at 79 msec
PASSENGER HEAD Z ACCELERATION
1 ——— 898100AI.A24 Filterclass [1000]
MGA Research
10-28-1998 13:02
TIME (SECONDS)
G'S


TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = 7.72E-02 G'S at -19 msec
Maximum = 56.51 G'S at 84 msec
PASSENGER HEAD RESULTANT ACCELERATION
1 ____ 898100AV.A22 Filterclass (1000)
50
40
30
20
10
0
TIME (SECONDS)
MGA Research
10-28-1998 13:05
S.9


COMPONENT: 1999 A I CRAFT GTH
Minimum = -44.33 G'S at 85 msec
Maximum = 1.76 G'S at 198 msec
PASSENGER HEAD REDUNDANT X ACCELERATION
1 898100AT.A38 Filterclass (1000)
0
-10
-20
-30
-40
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
10-28-1998 13:03


TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I C HART GTR
Speed: 29.9 MPH 48.1 KPH
Maximum = 48.47 KPH at 45 msec
Minimum = -31.57 KPH at 175 msec
PASSENGER HEAD REDUNDANT X VELOCITY
1 B98100AI.V38 Filterclass (180)
KPH
50
40
30
20
10
0
-10
-20
-30
TTMF Seconds
.19
.18
.17
.16
.15
.14
.13
.12
.11
.1
.09
.08
.07
.06
.05
.04
.03
.02
.01
0
-.01
-.02
MGA Research
11-01-1998 10:14


TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -11.84 G'S at 47 msec
Maximum = 7.22 G'S at 75 msec
PASSENGER HEAD REDUNDANT Y ACCELERATION
1 B98100AT.A39 Filterclass (1000)
8
6
4
2
0
-2
-4
-6
-8
-10
-12
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
10-28-1998 13:03


TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -.94 G'S at 115 msec
Maximum = 37.58 G'S at 78 msec
PASSENGER HEAD REDUNDANT Z ACCELERATION
1 ——— 898100AT.A40 Filterclass (1000)
MGA Research
10-28-1998 13:03
TTMF (SECONDS)
G'S
30
20
10
0
-.01
-.02
.19
.18
.17
.16
.15
.14
.13
.12
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.1
.09
.08
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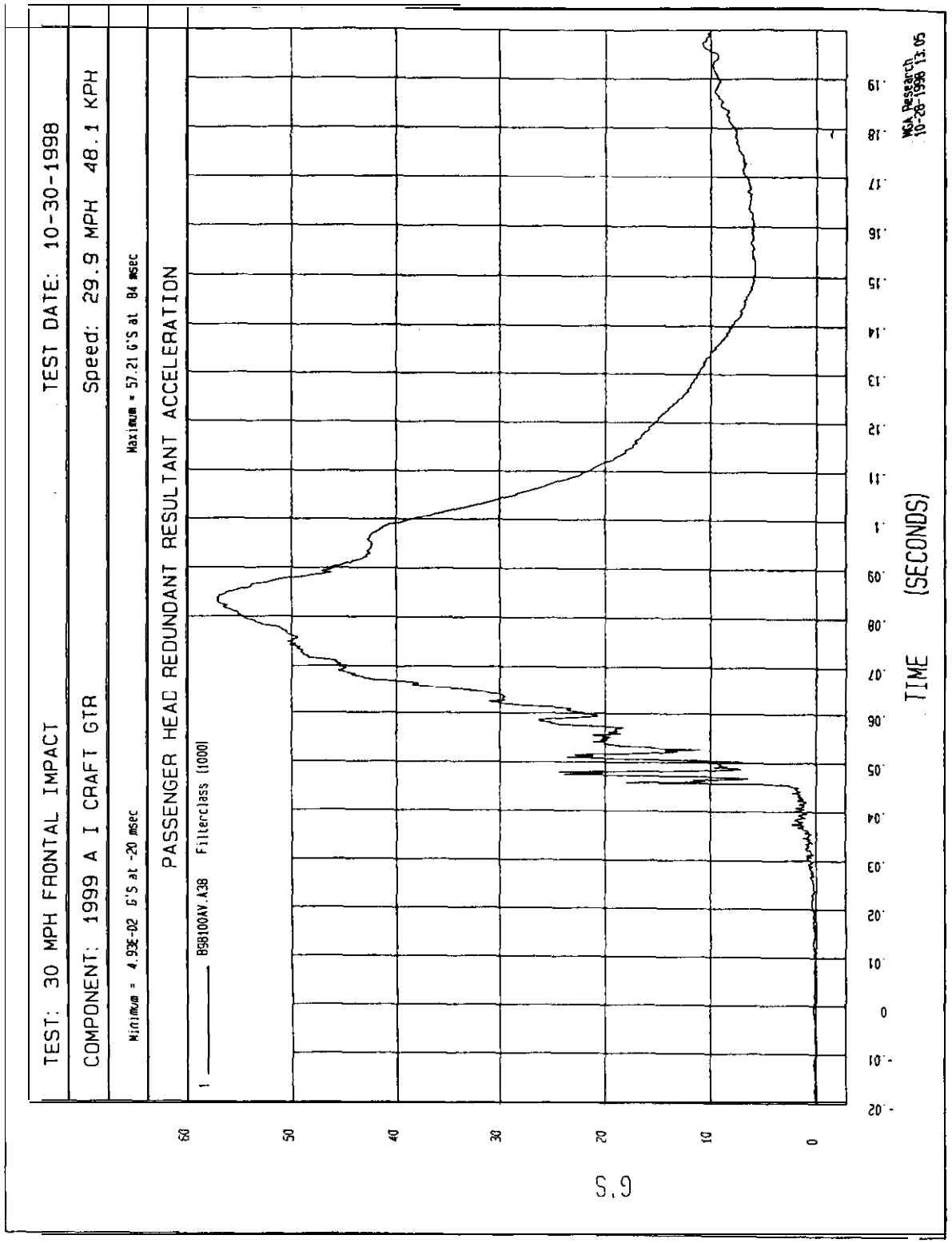
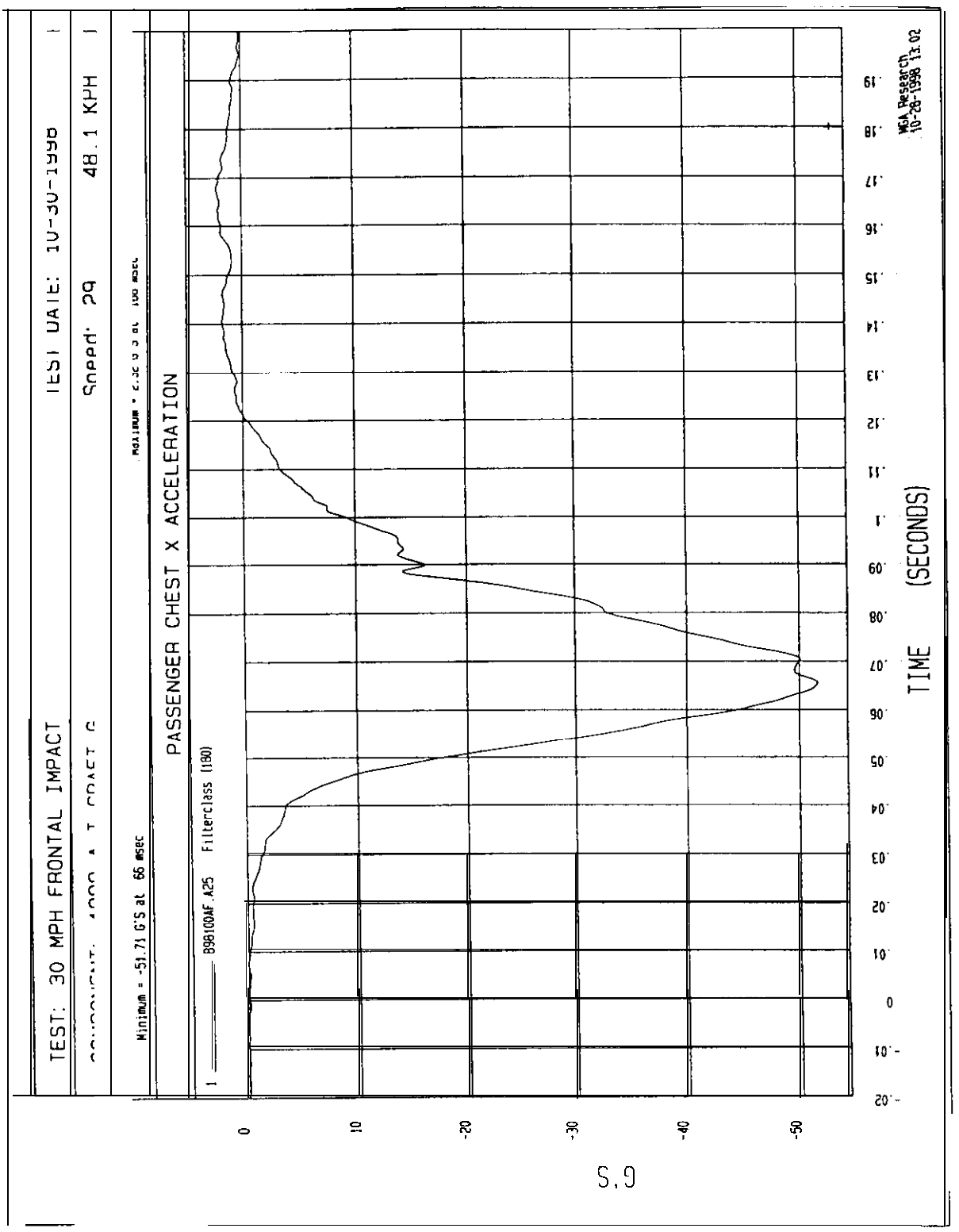
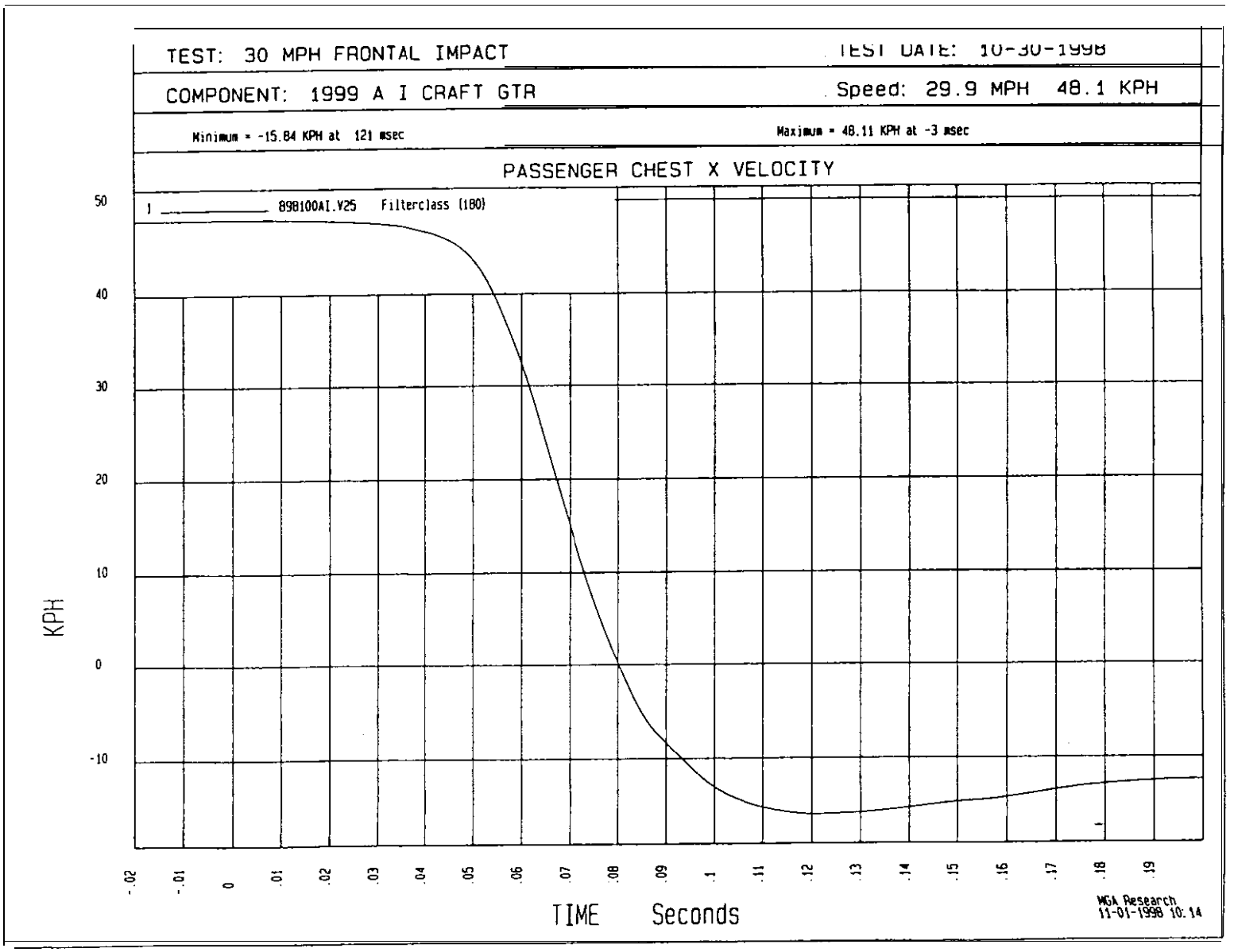
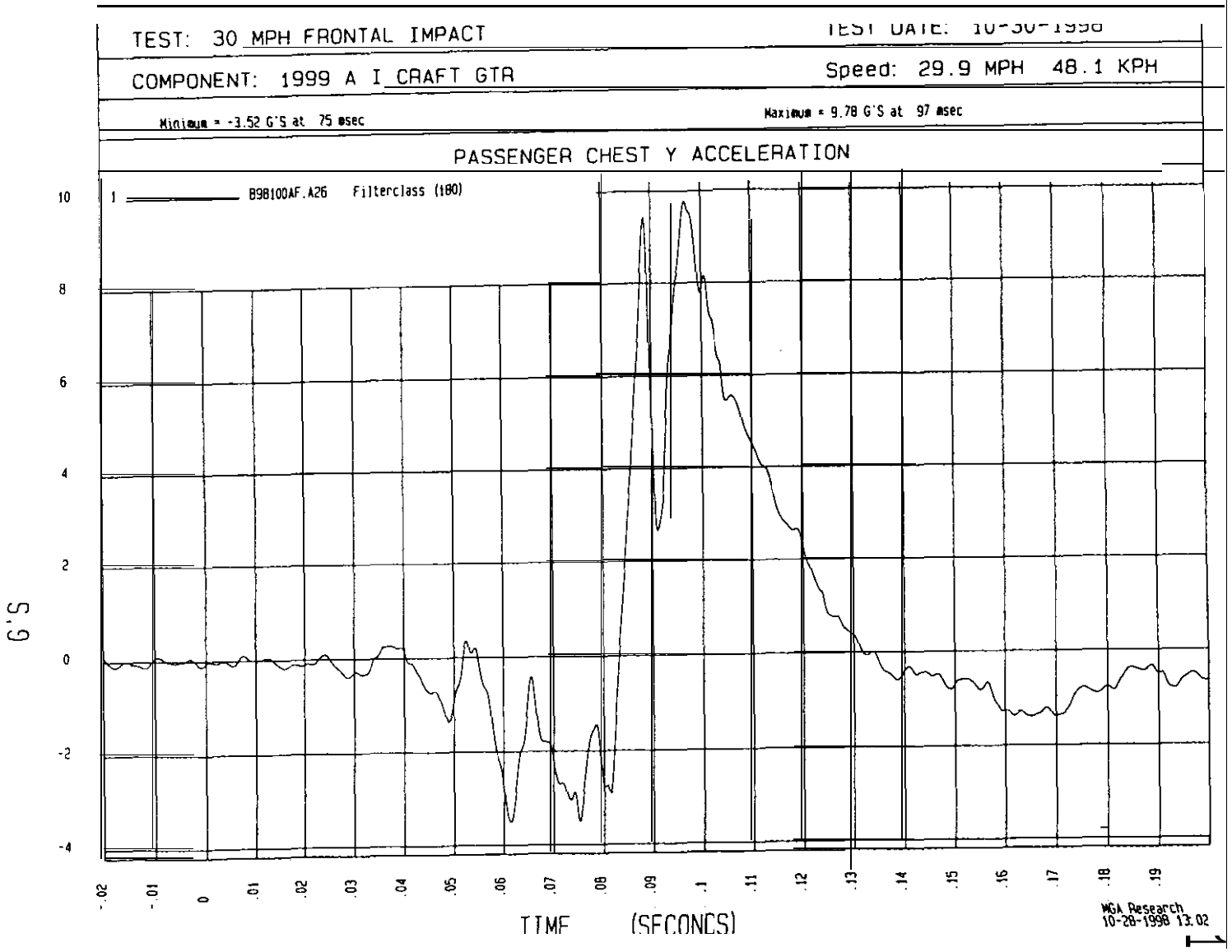
.03
.02
.01
0


TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = 4.93E-02 G'S at -20 msec
Maximum = 57.21 G'S at 84 msec
PASSENGER HEAD REDUNDANT RESULTANT ACCELERATION
1 B98100AV.A3B Filterclass (1000)
MGA Research
10-26-1998 13:05
TIME (SECONDS)
G'S


TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
Speed: 29 48.1 KPH
PASSENGER CHEST X ACCELERATION
Minimum = -51.71 G'S at 66 msec
1 B98100AF.A25 Filterclass (180)
0
-10
-20
-30
-40
-50
TIME (SECONDS)
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
MGA Research
10-28-1998 11:02
6.9


TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -15.84 KPH at 121 msec
Maximum = 48.11 KPH at -3 msec
PASSENGER CHEST X VELOCITY
898100AI.V25 Filterclass (180)
50
40
30
20
10
0
-10
KPH
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
11-01-1998 10:14


TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -3.52 G'S at 75 msec
Maximum = 9.78 G'S at 97 msec
PASSENGER CHEST Y ACCELERATION
1 B98100AF.A26 Filterclass (180)
G'S
10
8
6
4
2
0
-2
-4
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
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.11
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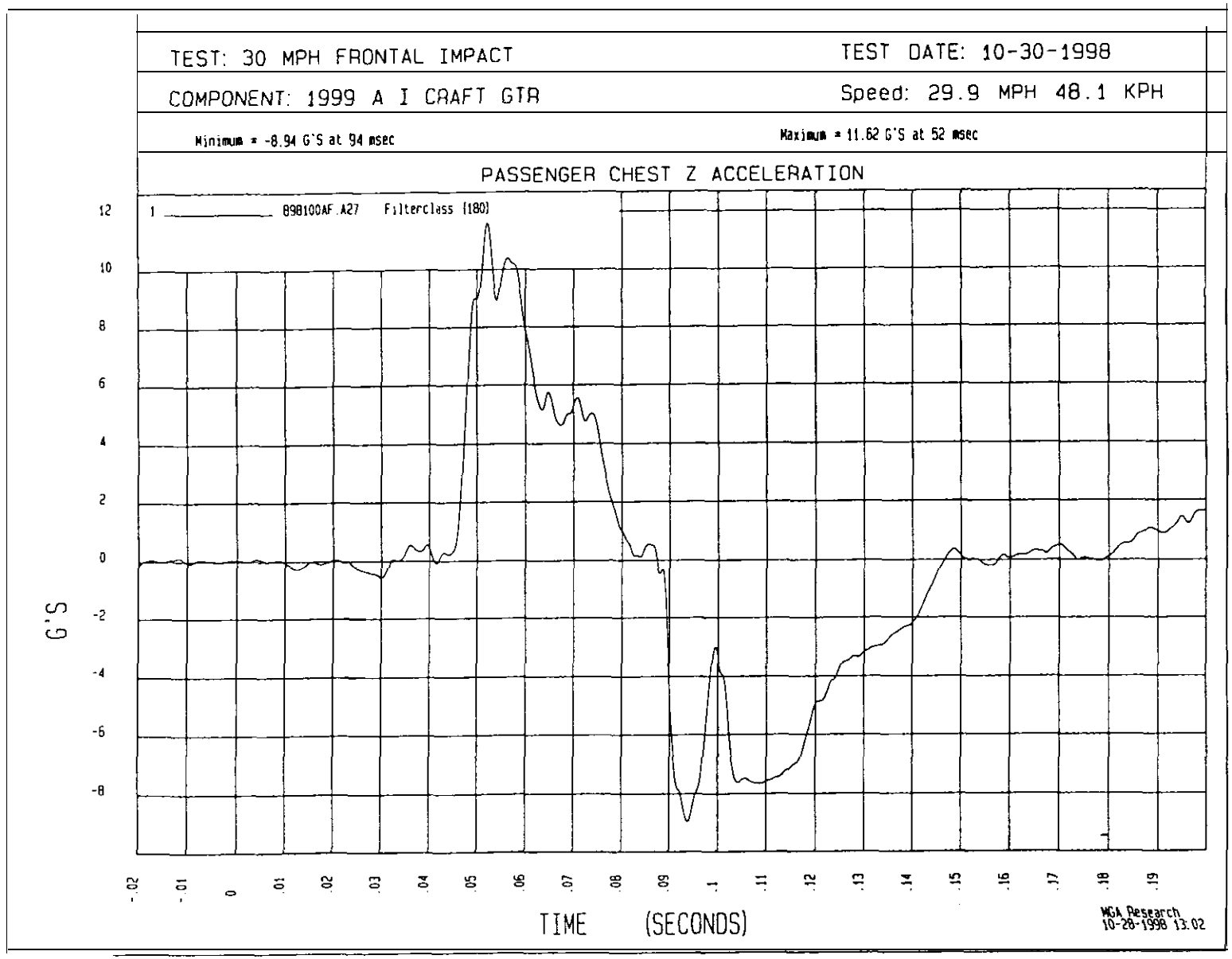
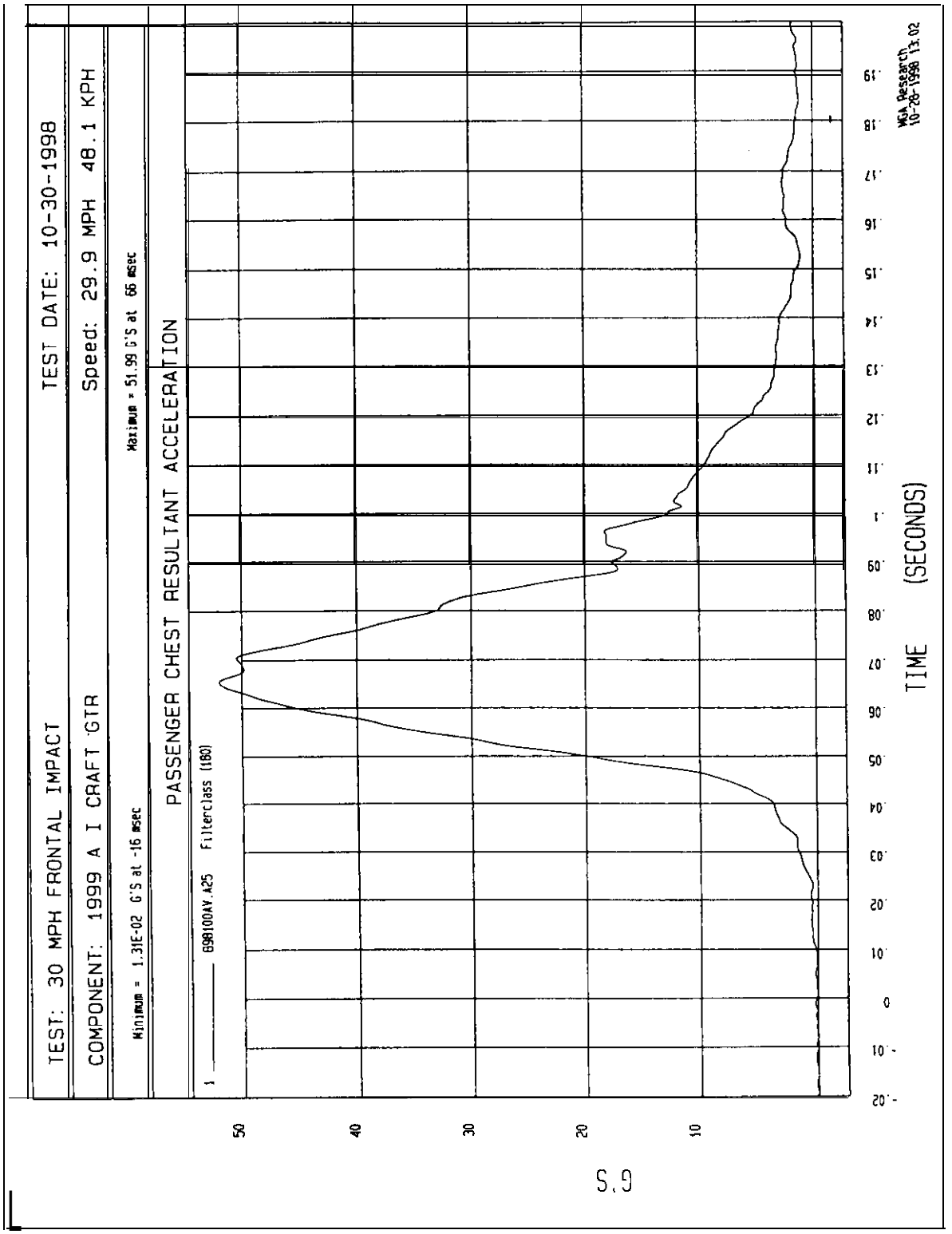
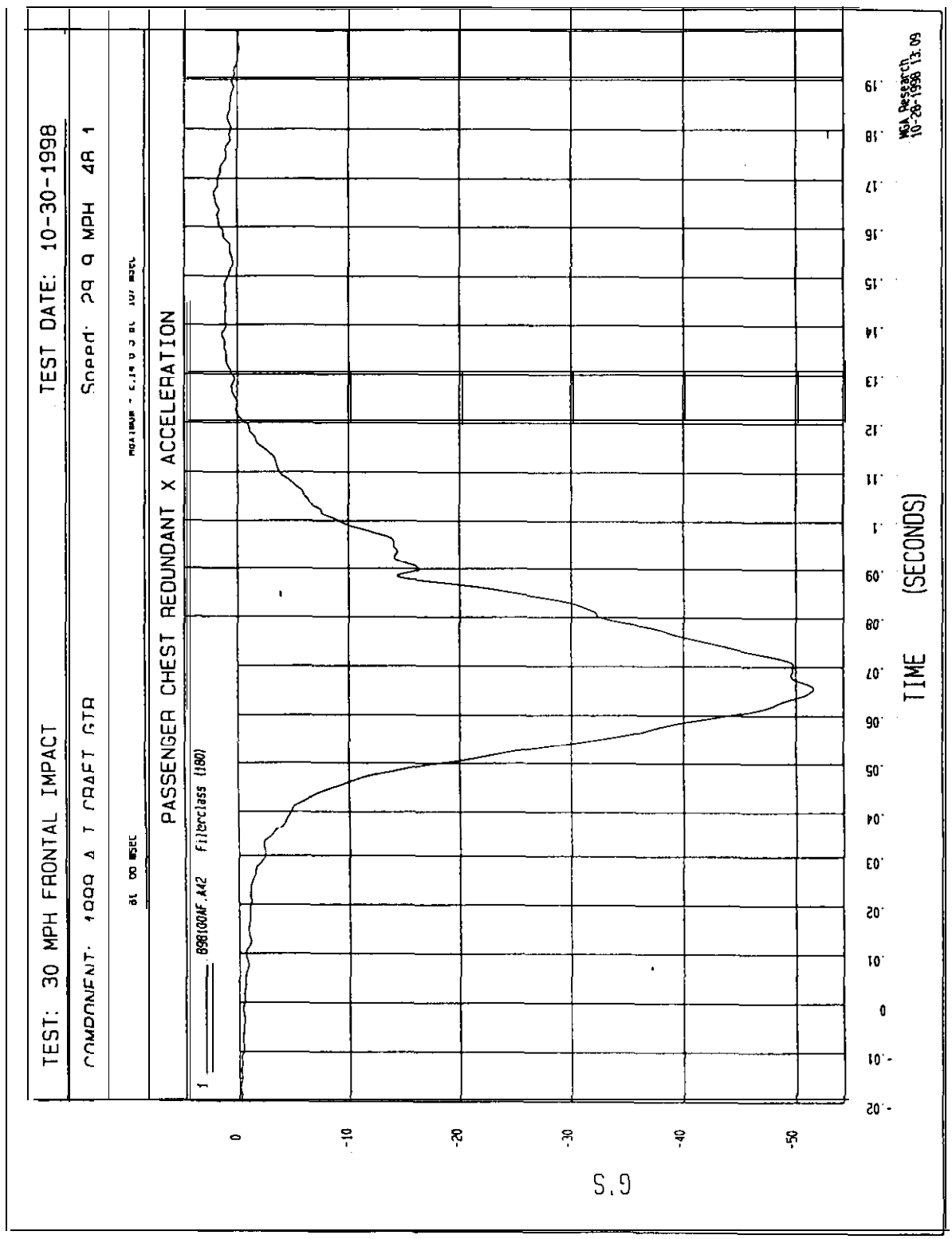
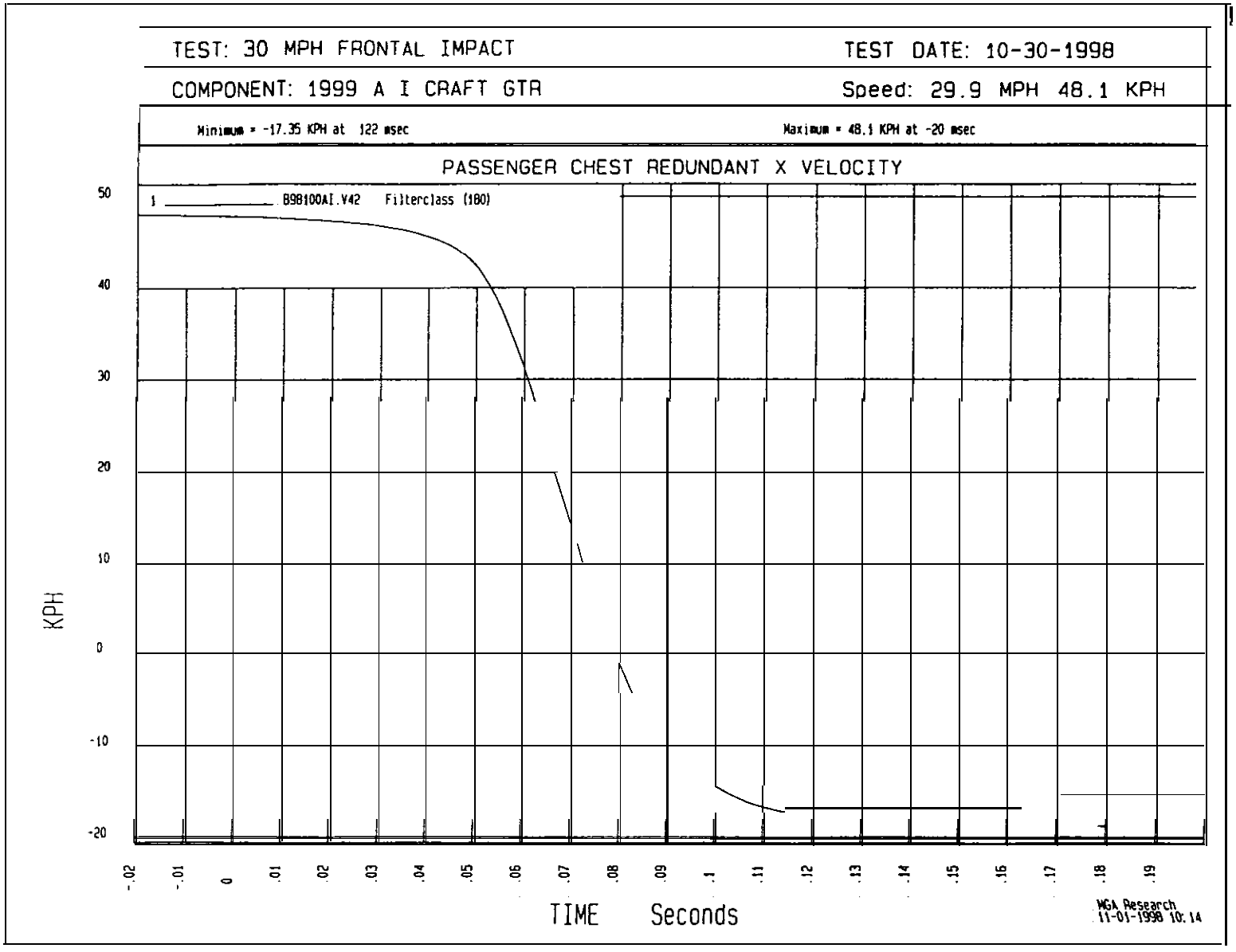
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
10-28-1998 13:02

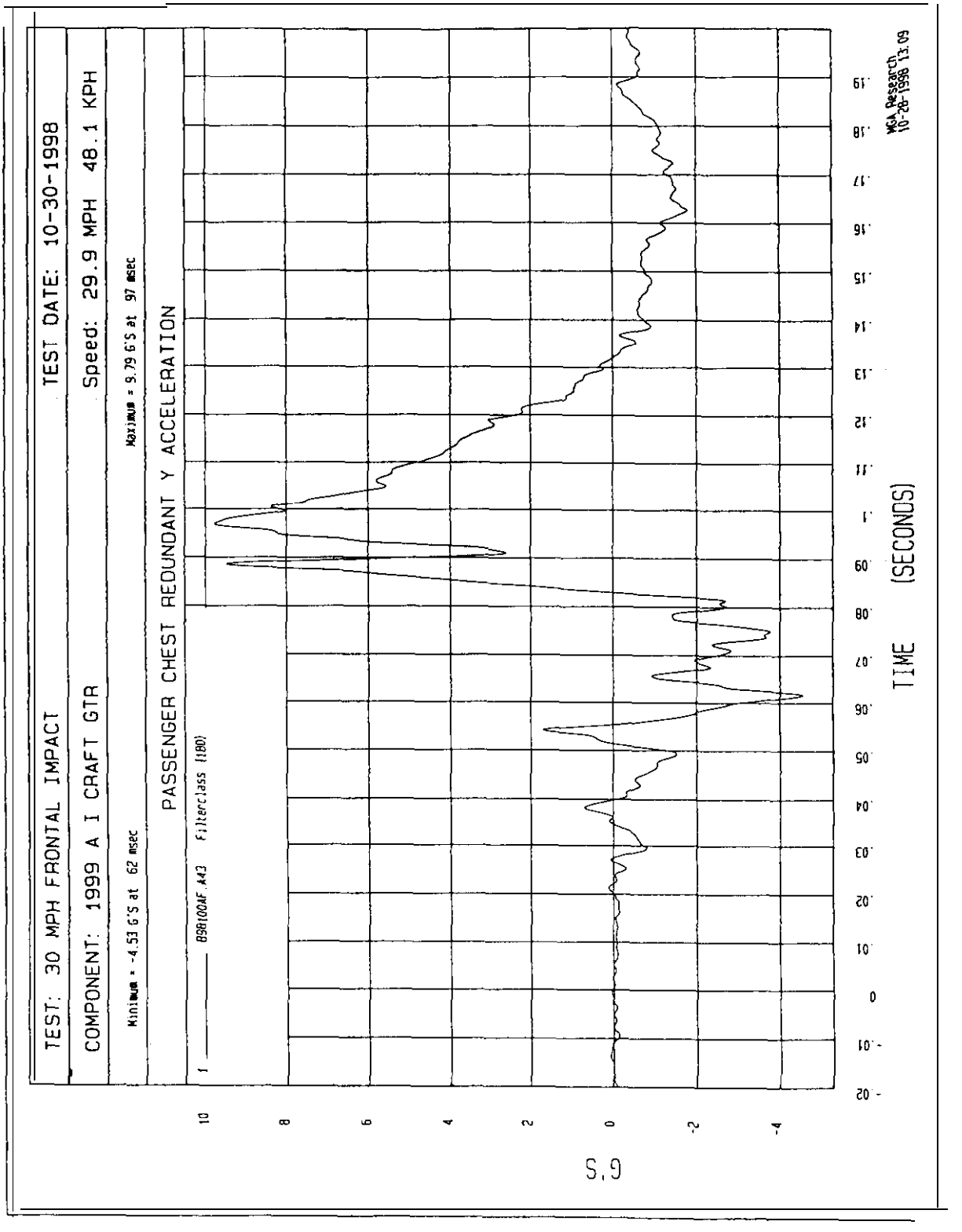

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -8.94 G'S at 94 msec
Maximum = 11.62 G'S at 52 msec
PASSENGER CHEST Z ACCELERATION
1 898100AF.A27 Filterclass (180)
12
10
8
6
4
2
0
-2
-4
-6
-8
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
10-28-1998 13:02

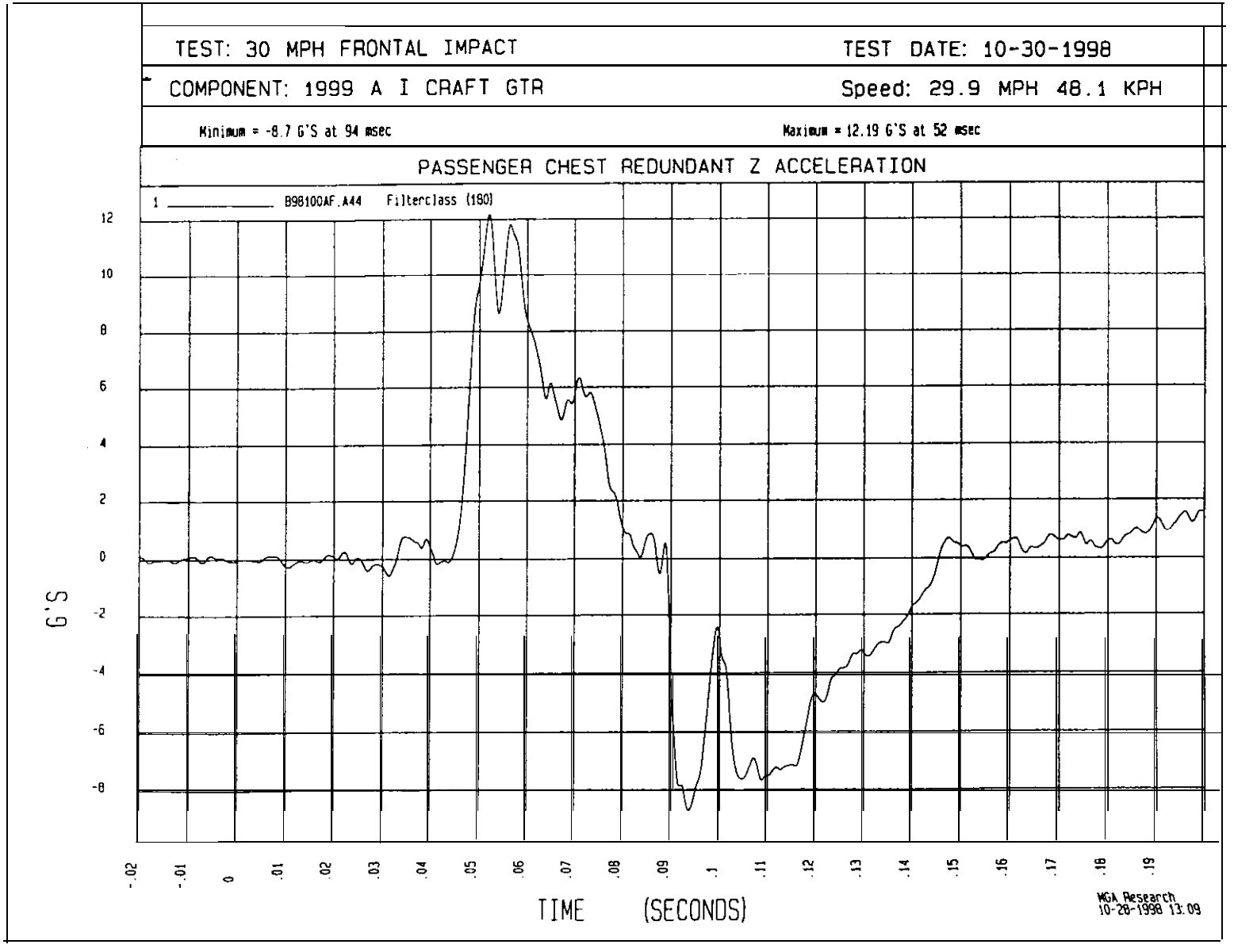

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = 1.31E-02 G'S at -16 msec
Maximum = 51.99 G'S at 66 msec
PASSENGER CHEST RESULTANT ACCELERATION
1 _____ 898100AY.A25 Filterclass (180)
MGA Research
10-28-1998 13:02
50
40
30
20
10
TIME (SECONDS)
.19
.18
.17
.16
.15
.14
.13
.12
.11
.1
.09
.08
.07
.06
.05
.04
.03
.02
.01
0
-.01
-.02

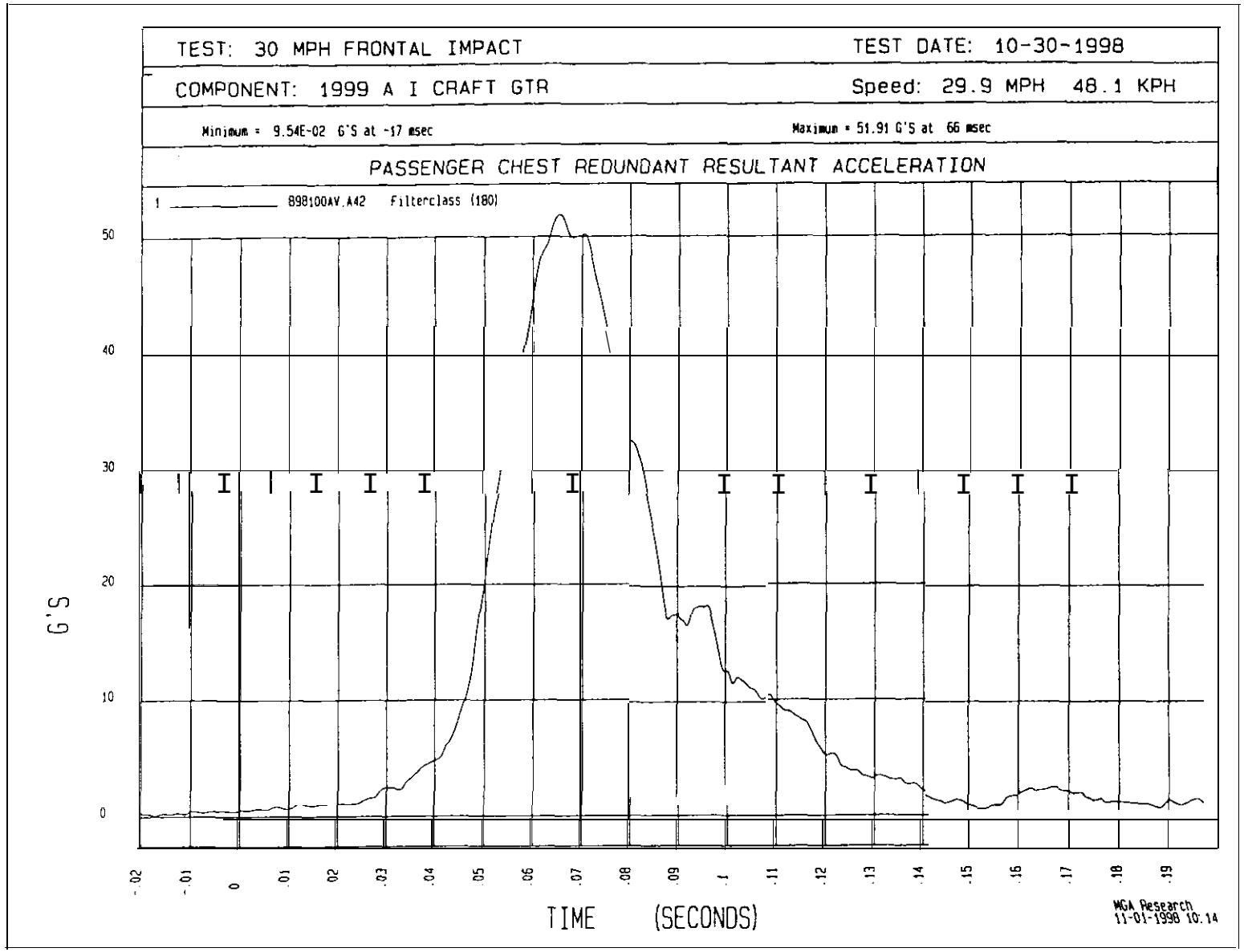
S.9

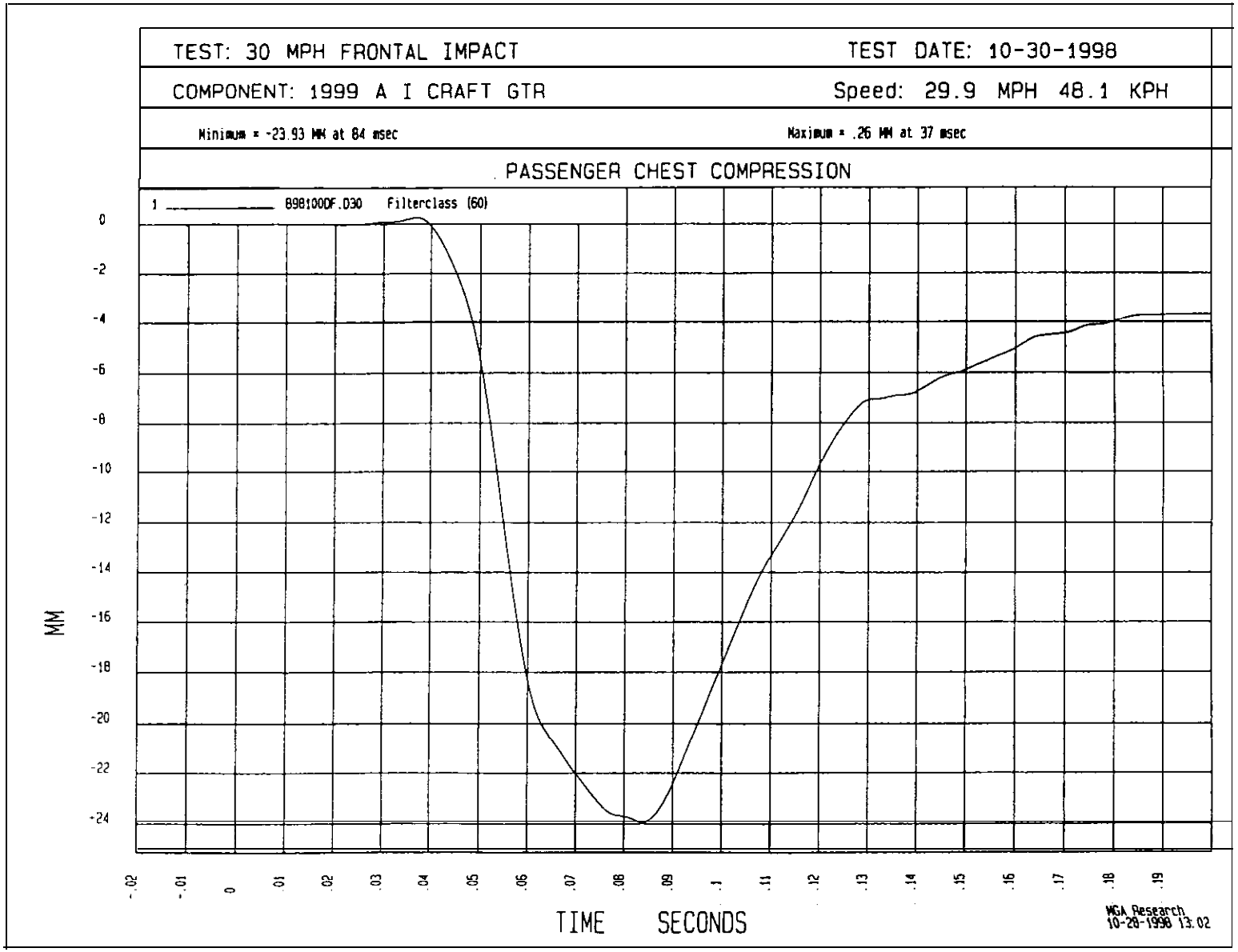

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
PASSENGER CHEST REDUNDANT X ACCELERATION
B981004F.A42 Filterclass (180)
MGA Research
10-28-1998 13:09
TIME (SECONDS)
0
-10
-20
-30
-40
-50

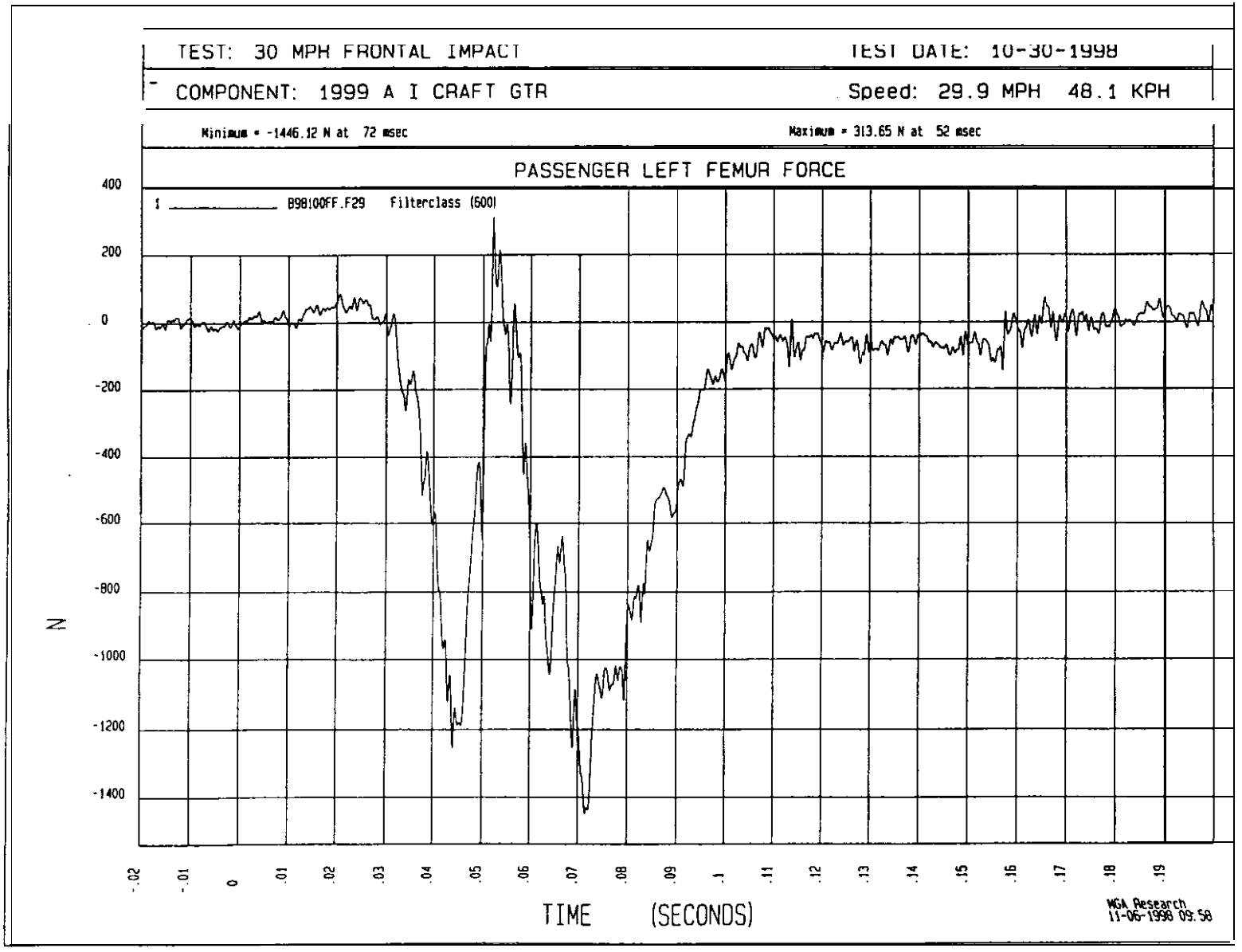

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -17.35 KPH at 122 msec
Maximum = 48.1 KPH at -20 msec
PASSENGER CHEST REDUNDANT X VELOCITY
1 B98100AI.V42 Filterclass (180)
KPH
50
40
30
20
10
0
-10
-20
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
11-01-1998 10:14

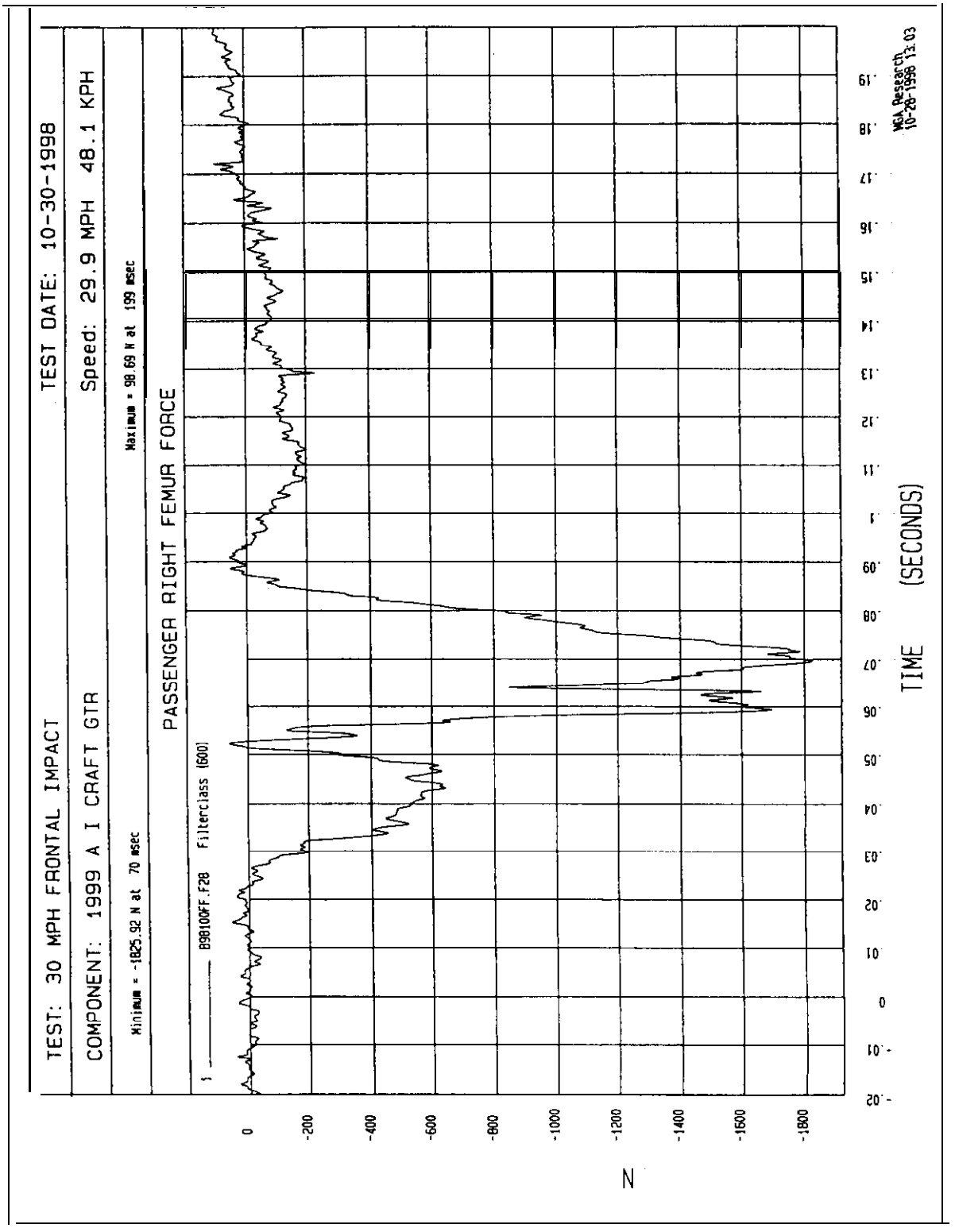

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -4.53 G'S at 62 msec
Maximum = 9.79 G'S at 97 msec
PASSENGER CHEST REDUNDANT Y ACCELERATION
1 _____ B98100AF.A43 Filterclass (180)
MGA Research
10-28-1998 13:09
TIME (SECONDS)
9.9
10
8
6
4
2
0
-2
-4
.02
.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19

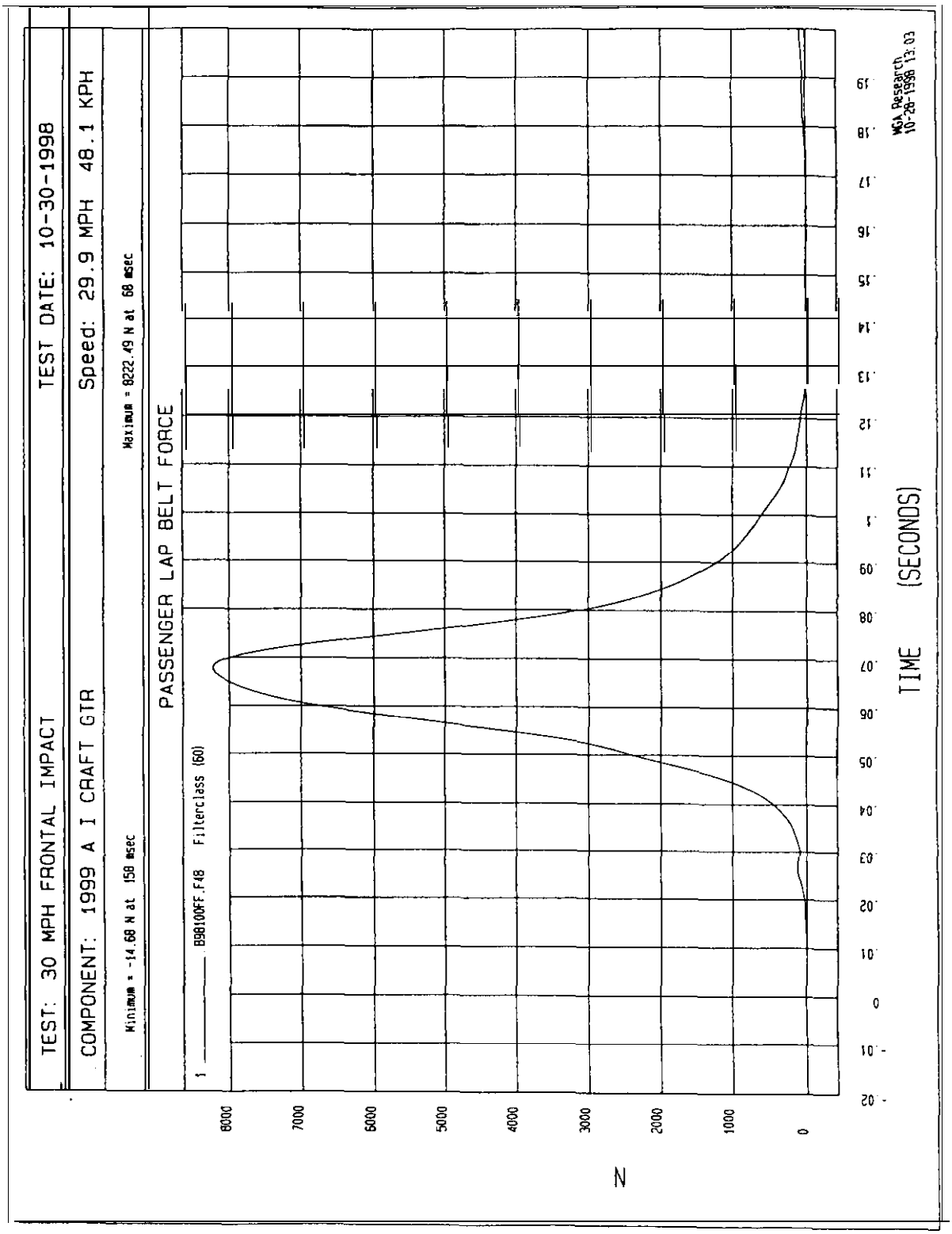

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -8.7 G'S at 94 msec
Maximum = 12.19 G'S at 52 msec
PASSENGER CHEST REDUNDANT Z ACCELERATION
1 B98100AF.A44 Filterclass (180)
12
10
8
6
4
2
0
-2
-4
-6
-8
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
10-28-1998 13:09

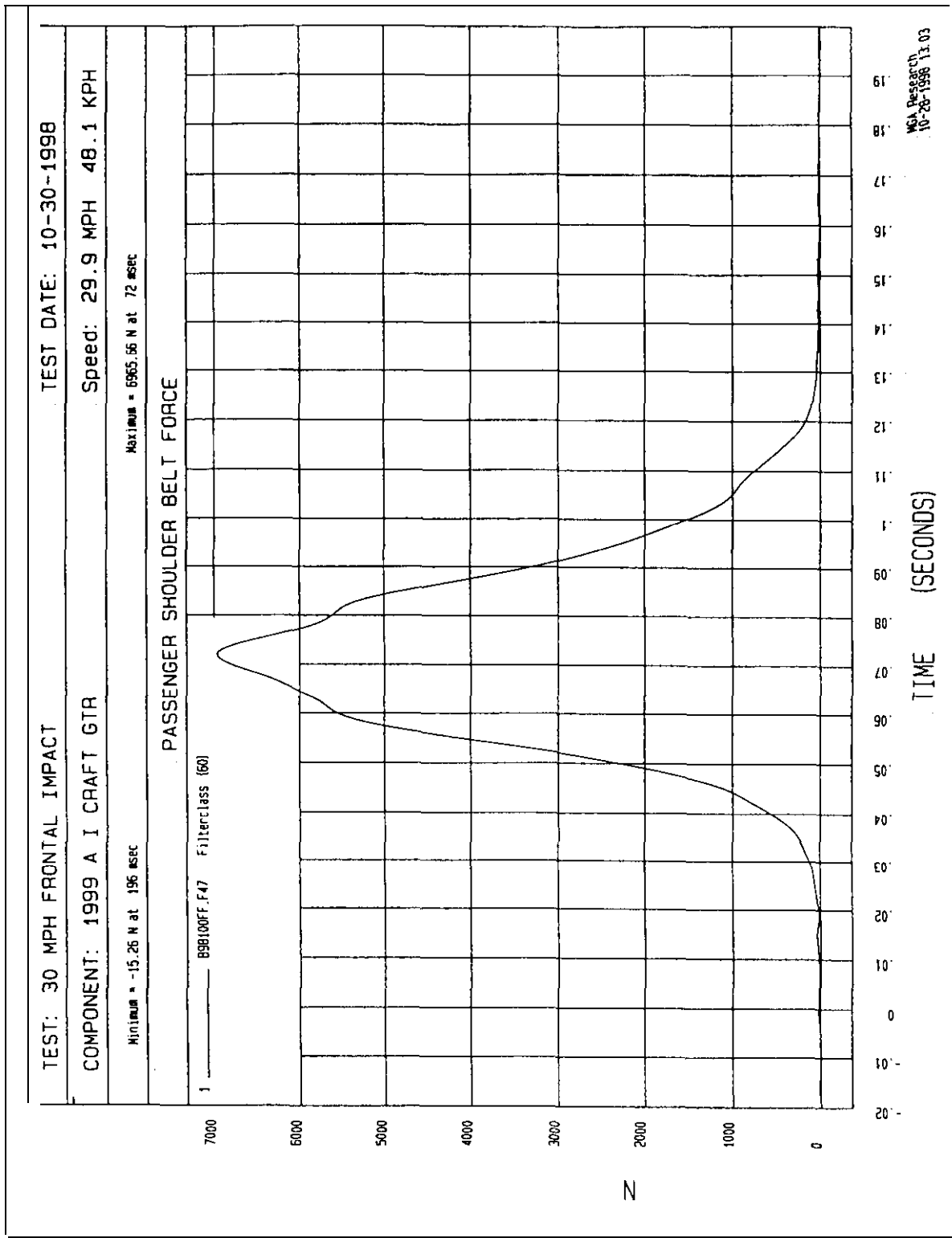

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = 9.54E-02 G'S at -17 msec
Maximum = 51.91 G'S at 66 msec
PASSENGER CHEST REDUNDANT RESULTANT ACCELERATION
1 898100AV.A42 Filterclass (180)
G'S
50
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-01-1998 10:14

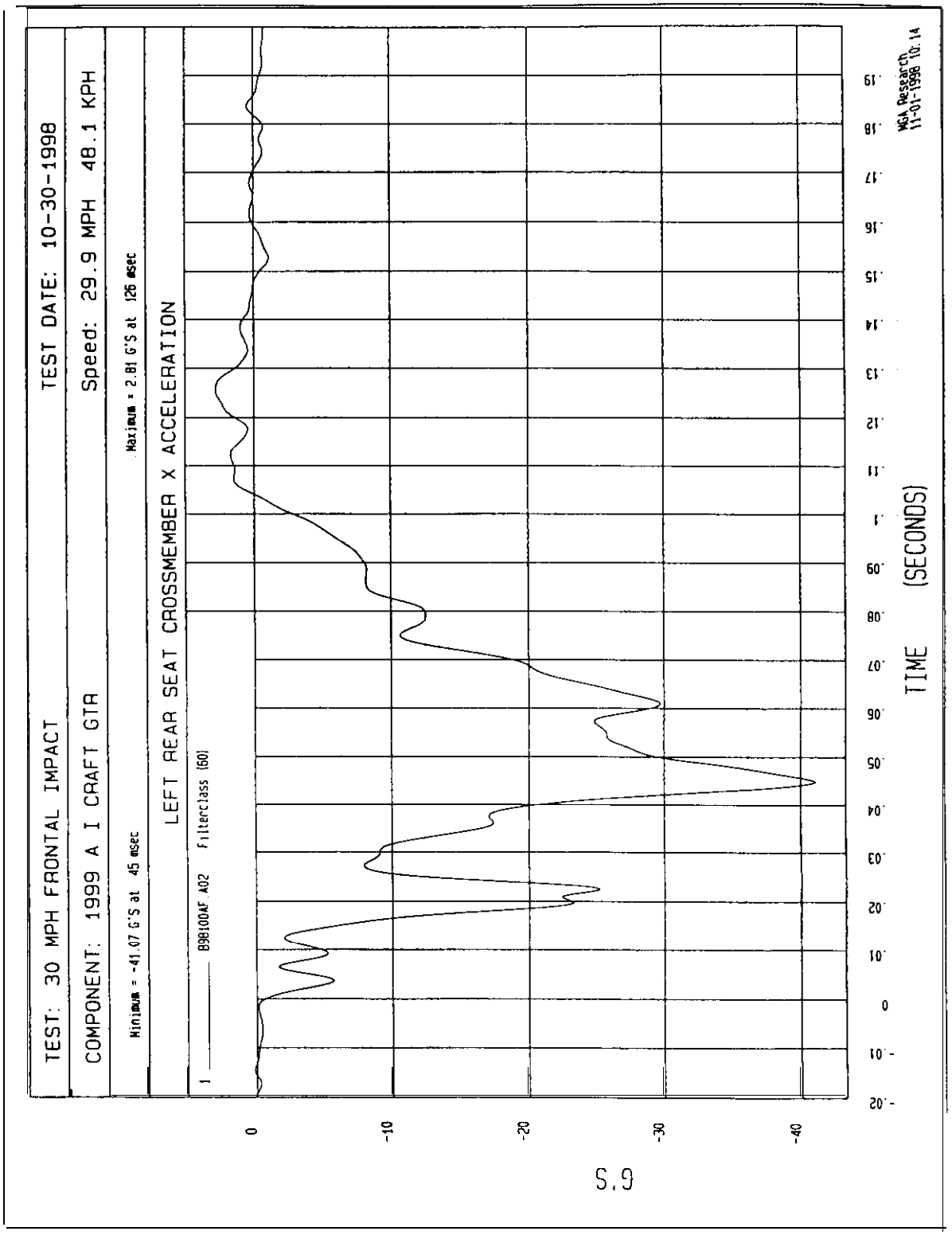

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -23.93 MM at 84 msec
Maximum = .26 MM at 37 msec
PASSENGER CHEST COMPRESSION
1 _____ 898100DF.D30 Filterclass (60)
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-22
-24
MM
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME SECONDS
MGA Research
10-28-1998 13:02

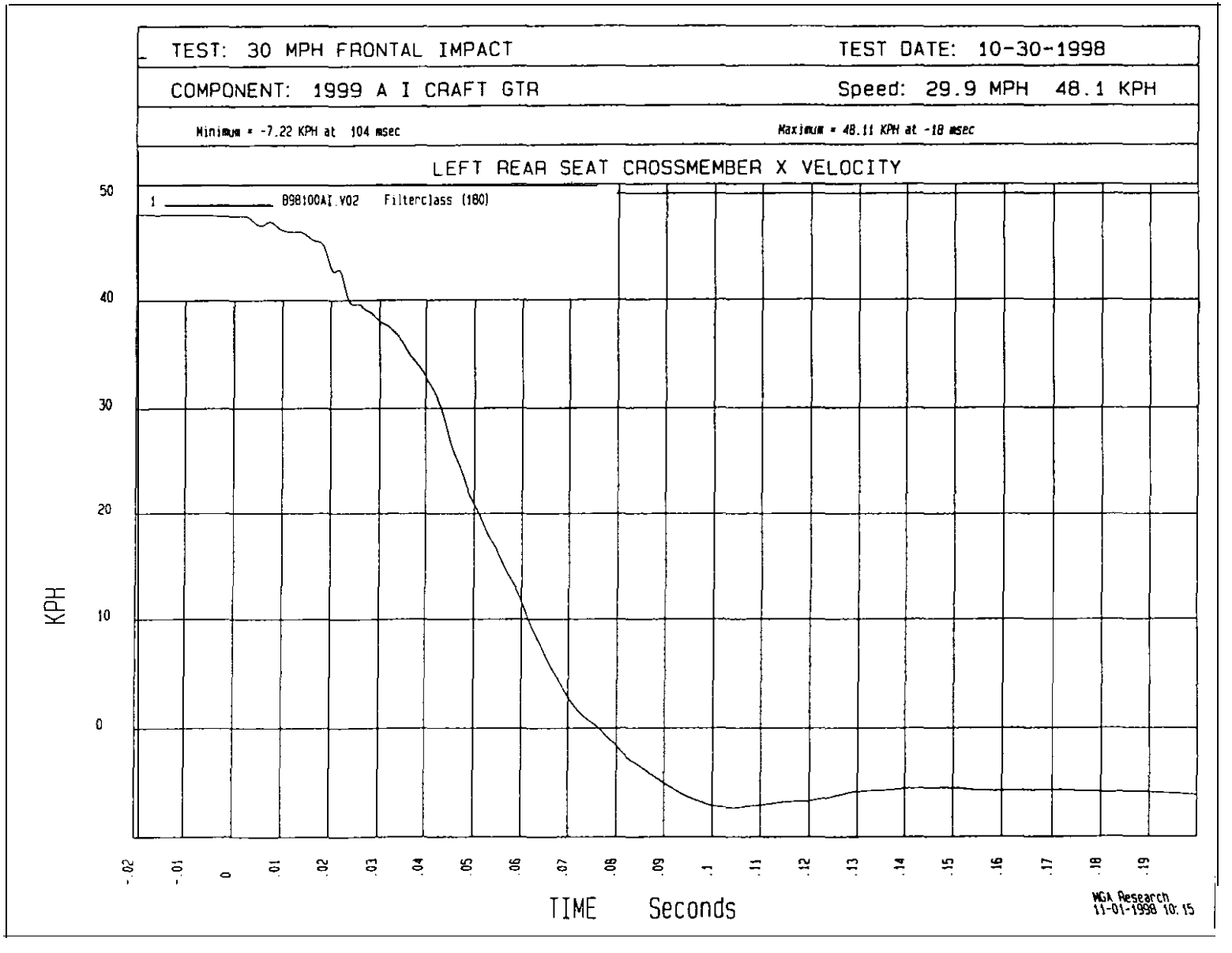

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -1446.12 N at 72 msec
Maximum = 313.65 N at 52 msec
PASSENGER LEFT FEMUR FORCE
1 B98100FF.F29 Filterclass (600)
400
200
0
-200
-400
-600
-800
-1000
-1200
-1400
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-06-1998 09:58

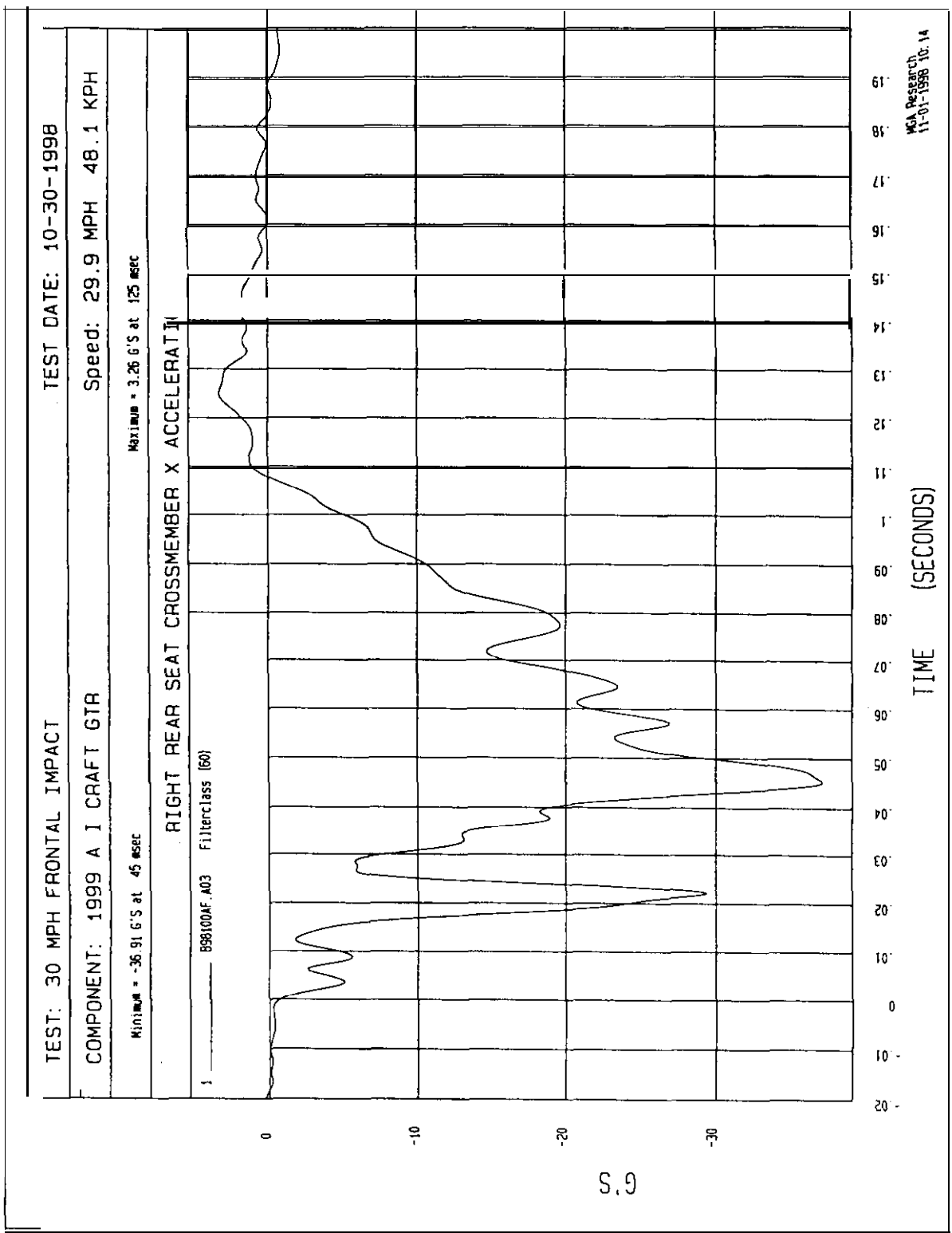

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -1825.92 N at 70 msec
Maximum = 98.69 N at 199 msec
PASSENGER RIGHT FEMUR FORCE
1 B98100FF.F28 Filterclass (600)
0
-200
-400
-600
-800
-1000
-1200
-1400
-1600
-1800
N
-20
-10
0
10
20
01
02
03
04
05
06
07
08
09
1
11
12
13
14
15
16
17
18
19
TIME (SECONDS)
MGA Research
10-28-1998 13:03

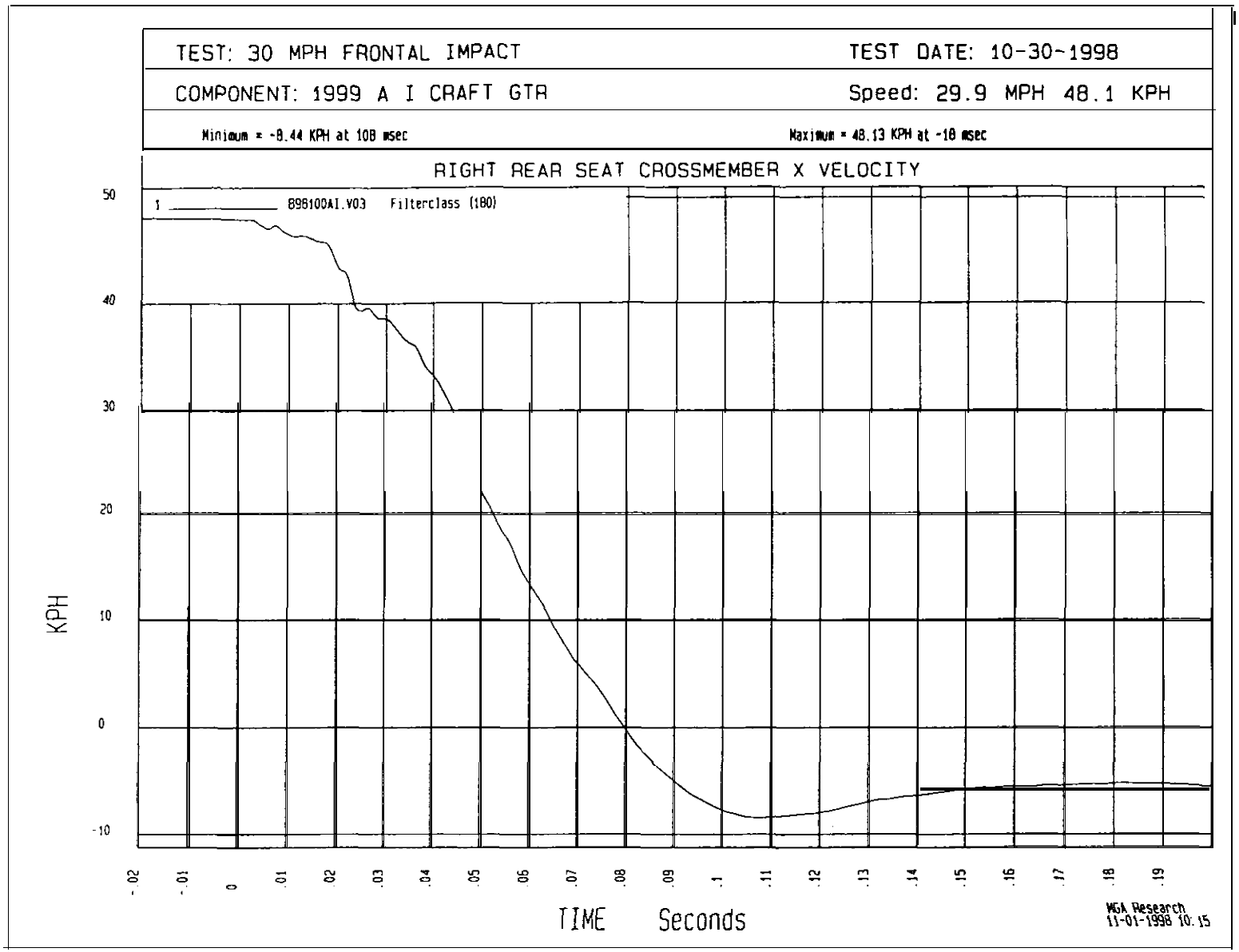

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -14.68 N at 158 msec
Maximum = 8222.49 N at 68 msec
PASSENGER LAP BELT FORCE
1 _____ B98100FF.F48 Filterclass (60)
8000
7000
6000
5000
4000
3000
2000
1000
0
N
TIME (SECONDS)
MGA Research
10-28-1998 13:03

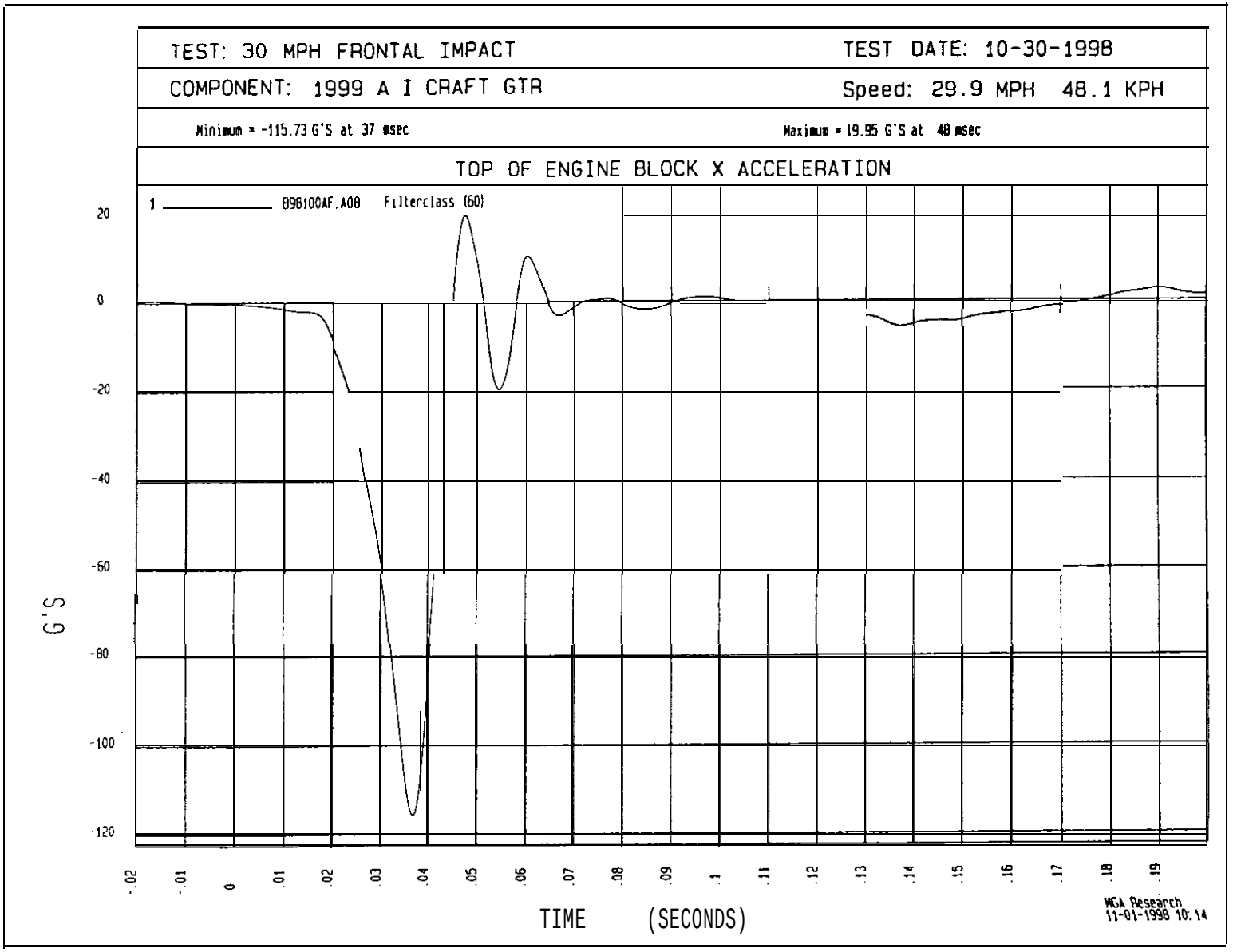

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -15.26 N at 196 msec
Maximum = 6965.66 N at 72 msec
PASSENGER SHOULDER BELT FORCE
1 B98100FF.F47 Filterclass (60)
7000
6000
5000
4000
3000
2000
1000
0
N
TIME (SECONDS)
WSA Research
10-28-1998 13:03

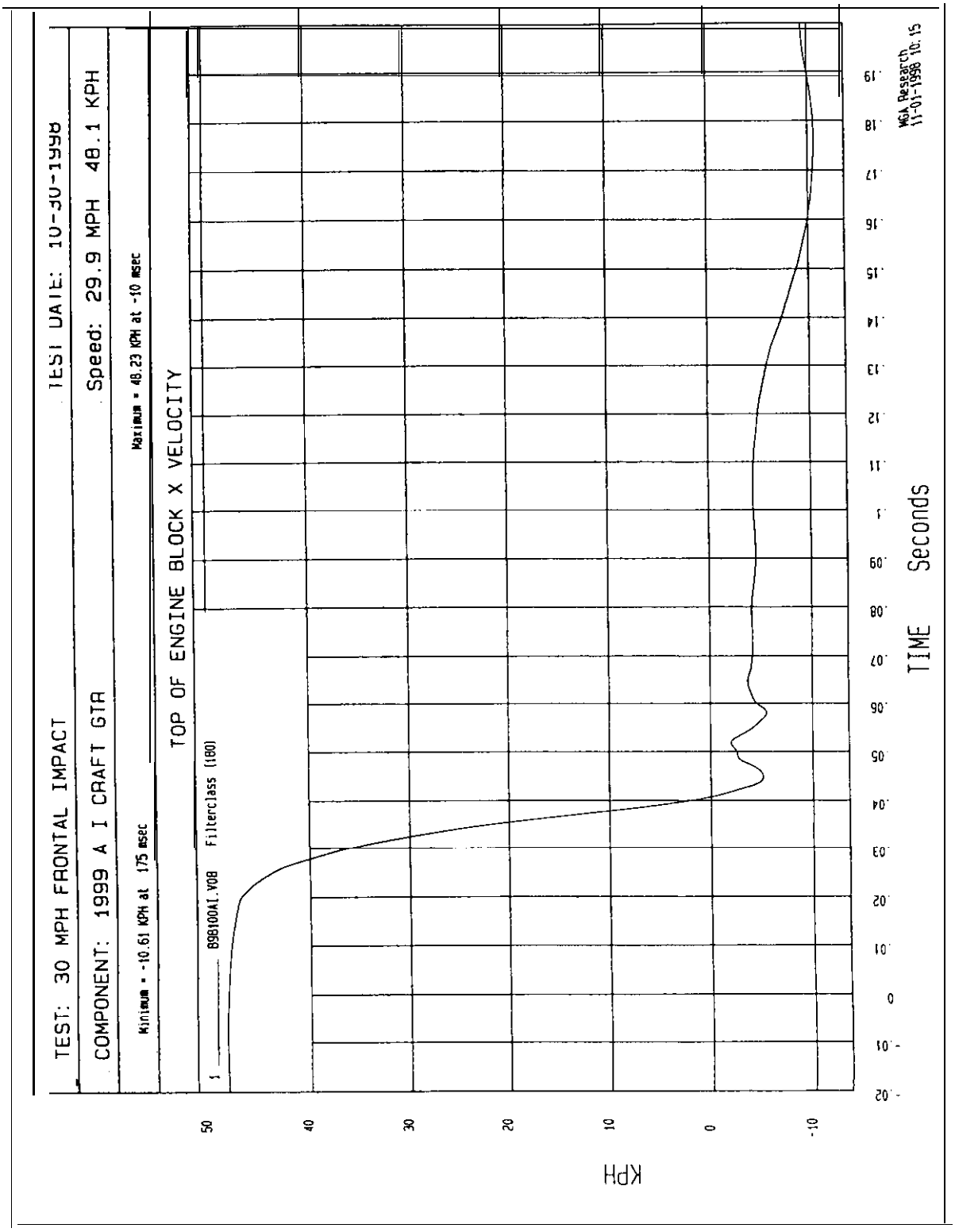

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -41.07 G'S at 45 msec
Maximum = 2.81 G'S at 126 msec
LEFT REAR SEAT CROSSMEMBER X ACCELERATION
1 _____ B9810DAF A02 Filterclass (60)
0
-10
-20
-30
-40
TIME (SECONDS)
MGA Research
11-01-1998 10: 14
6.5
5.9

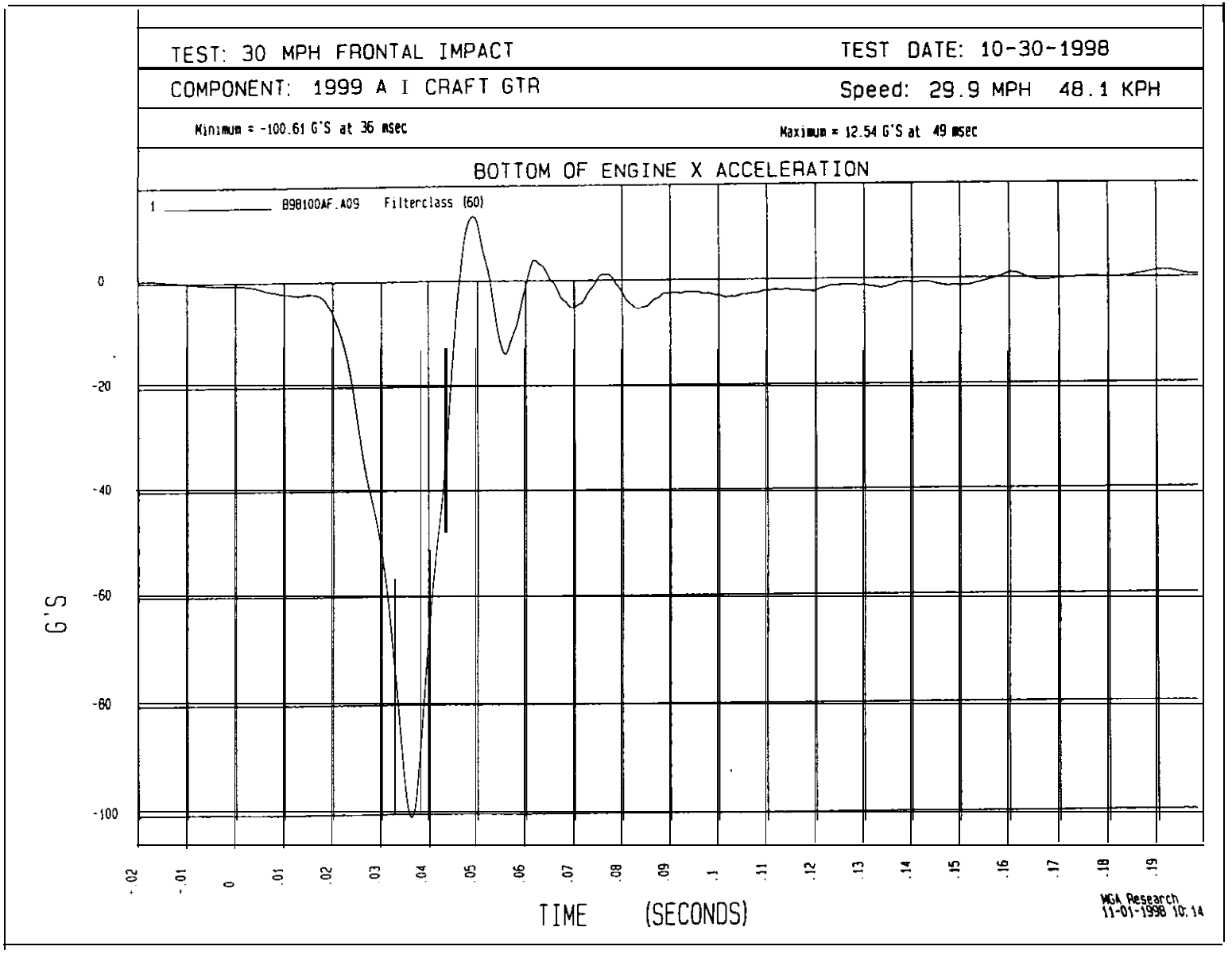

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -7.22 KPH at 104 msec
Maximum = 48.11 KPH at -18 msec
LEFT REAR SEAT CROSSMEMBER X VELOCITY
1 B98100AI.V02 Filterclass (180)
KPH
50
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
11-01-1998 10:15

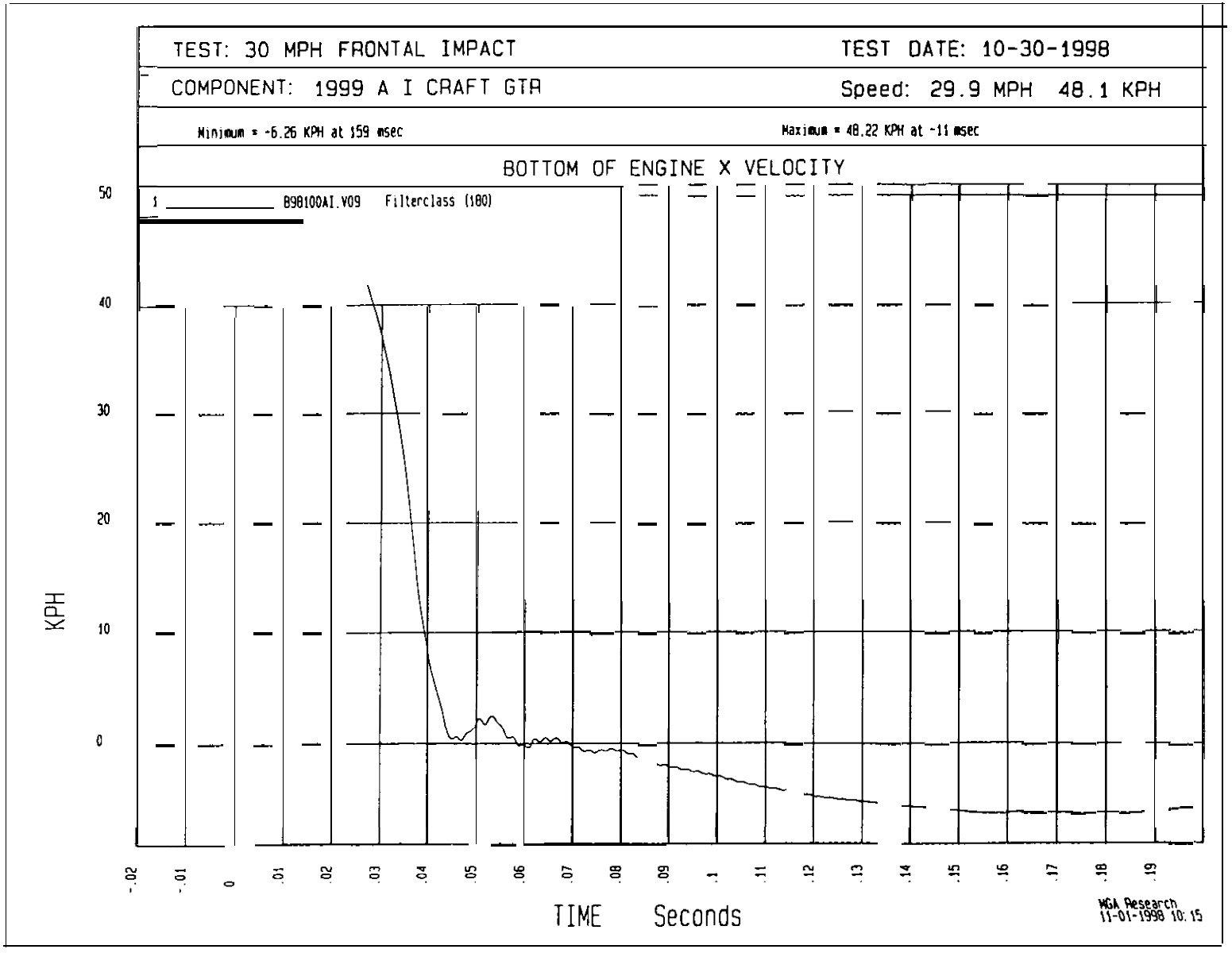

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -36.91 G'S at 45 msec
Maximum = 3.26 G'S at 125 msec
RIGHT REAR SEAT CROSSMEMBER X ACCELERATION
1 B98100AF.A03 Filterclass (60)
MGA Research
11-01-1998 10:14
0
-10
-20
-30
S.9
TIME (SECONDS)

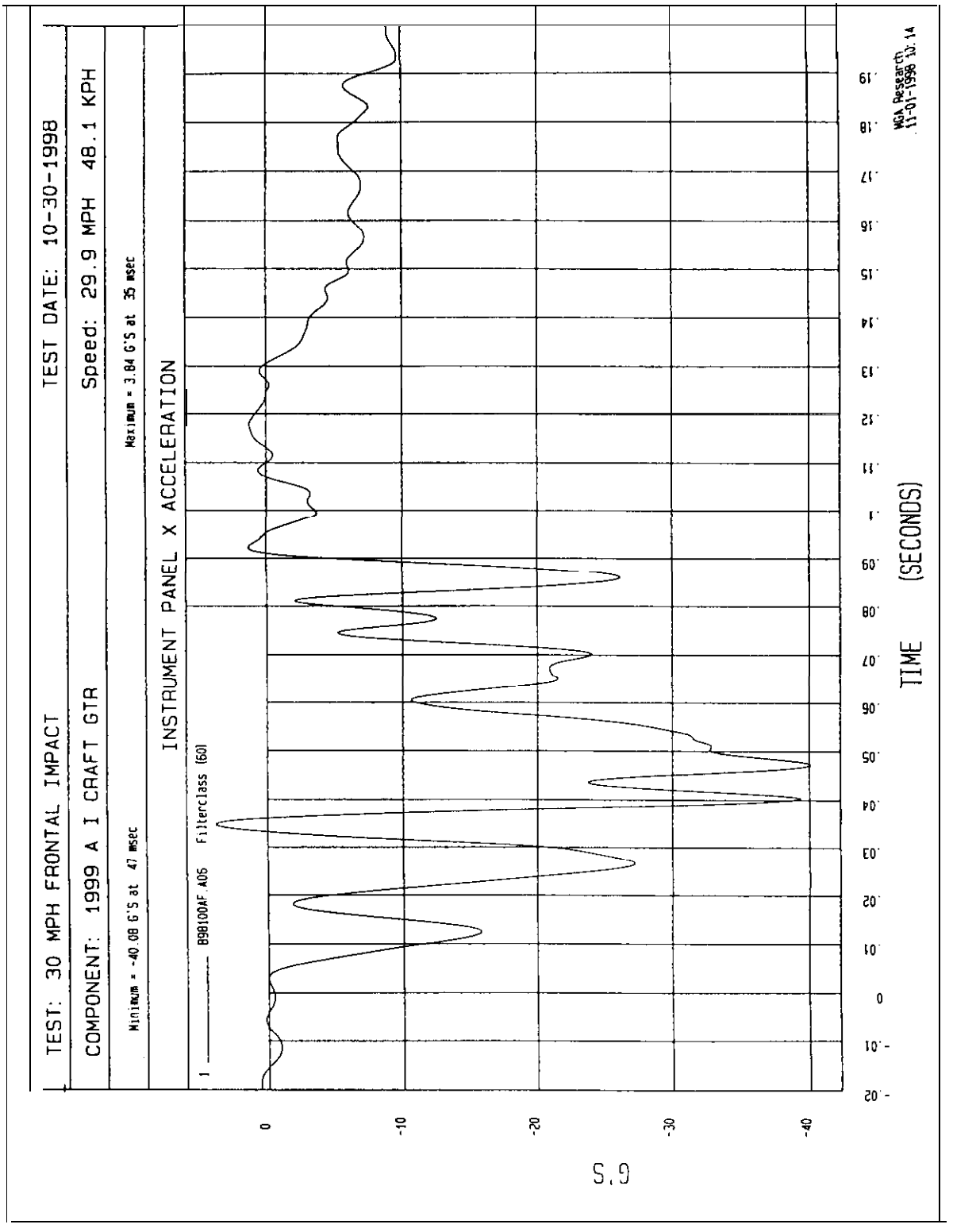

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -8.44 KPH at 108 msec
Maximum = 48.13 KPH at -10 msec
RIGHT REAR SEAT CROSSMEMBER X VELOCITY
1 898100AI.V03 Filterclass (180)
50
40
30
20
10
0
-10
KPH
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
11-01-1998 10:15

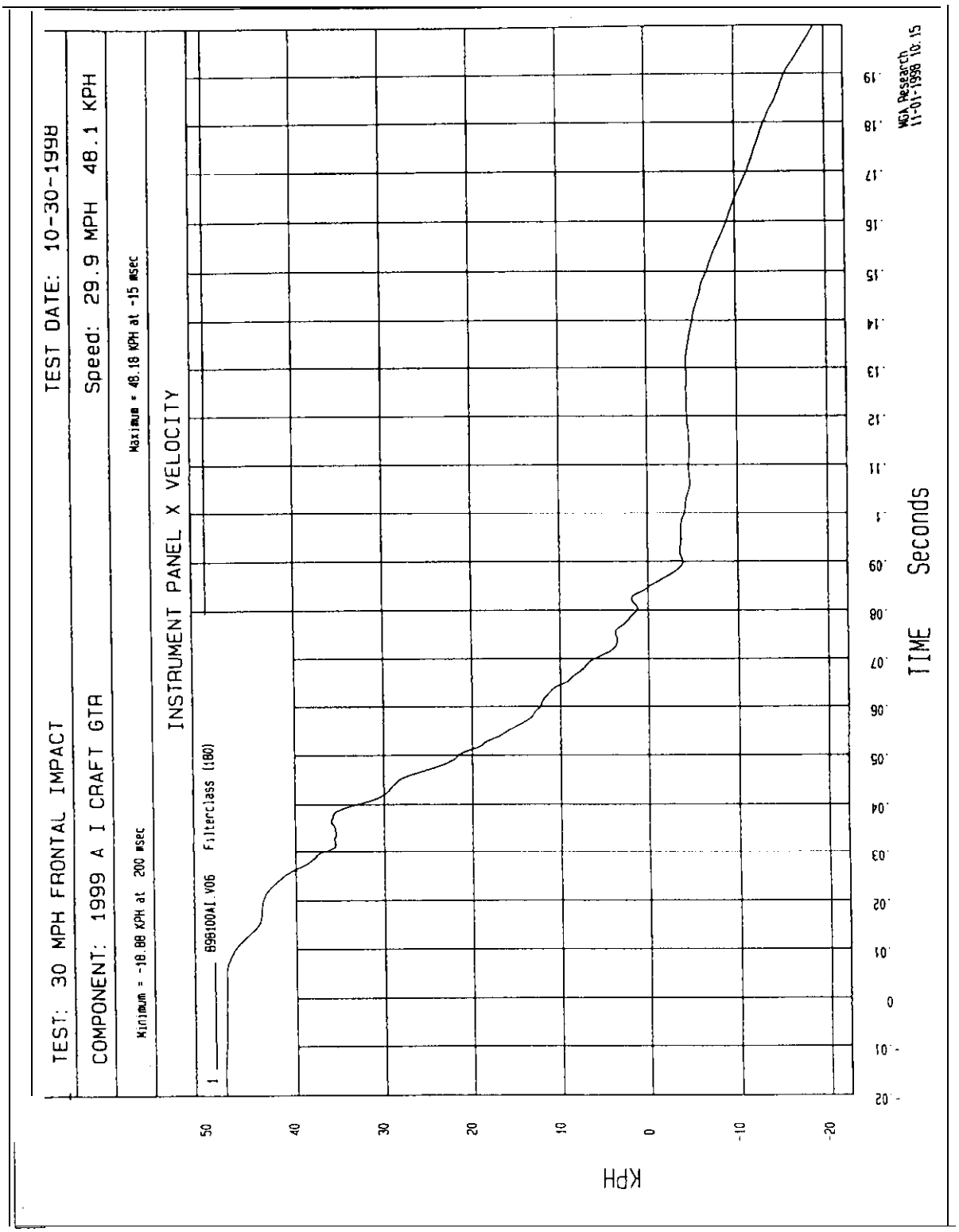

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -115.73 G'S at 37 msec
Maximum = 19.95 G'S at 48 msec
TOP OF ENGINE BLOCK X ACCELERATION
1 898100AF.A08 Filterclass (60)
20
0
-20
-40
-60
-80
-100
-120
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-01-1998 10:14

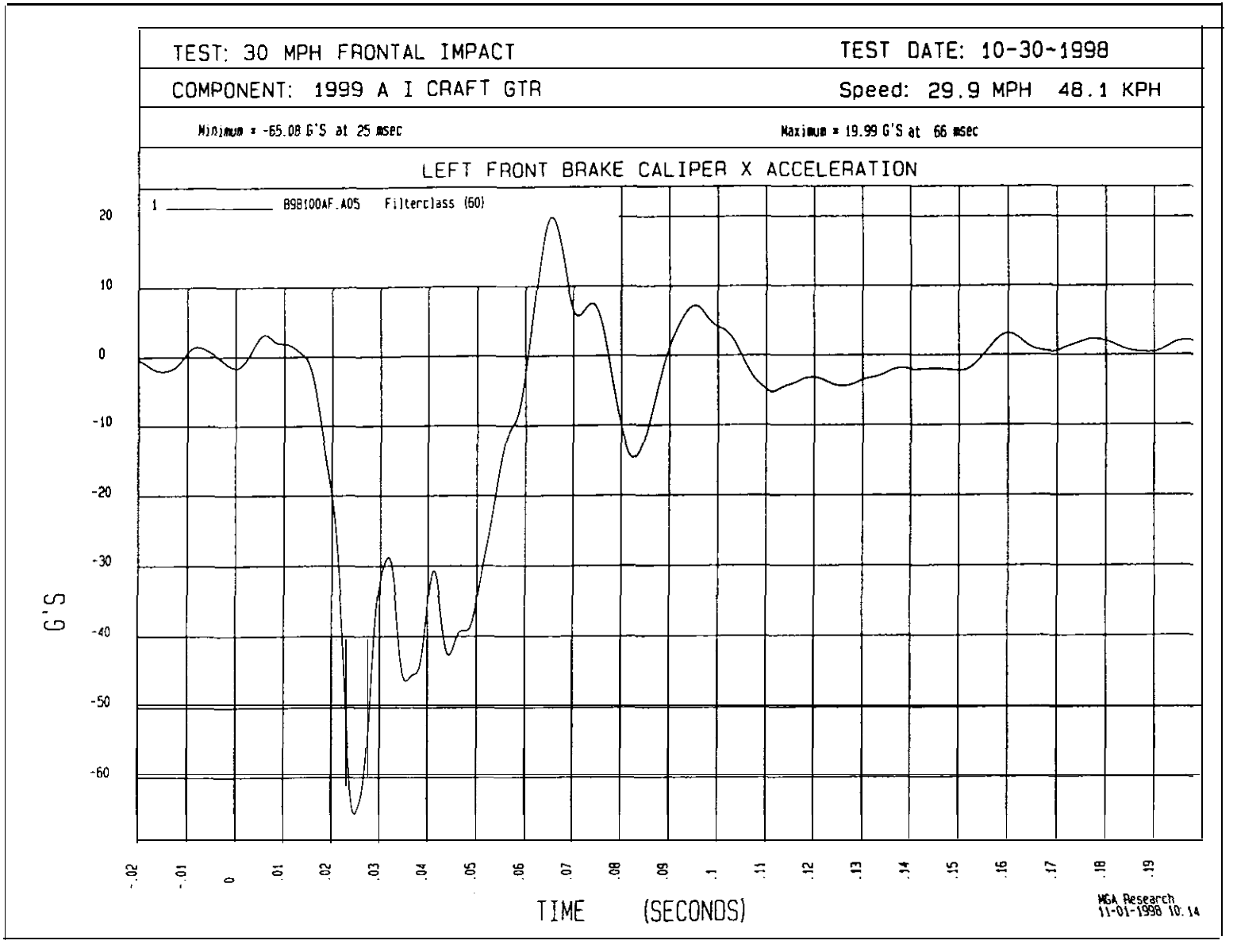

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -10.61 KPH at 175 msec
Maximum = 48.23 KPH at -10 msec
TOP OF ENGINE BLOCK X VELOCITY
1 B98100AI.V08 Filterclass (180)
KPH
TIME Seconds
MGA Research
11-01-1998 10:15

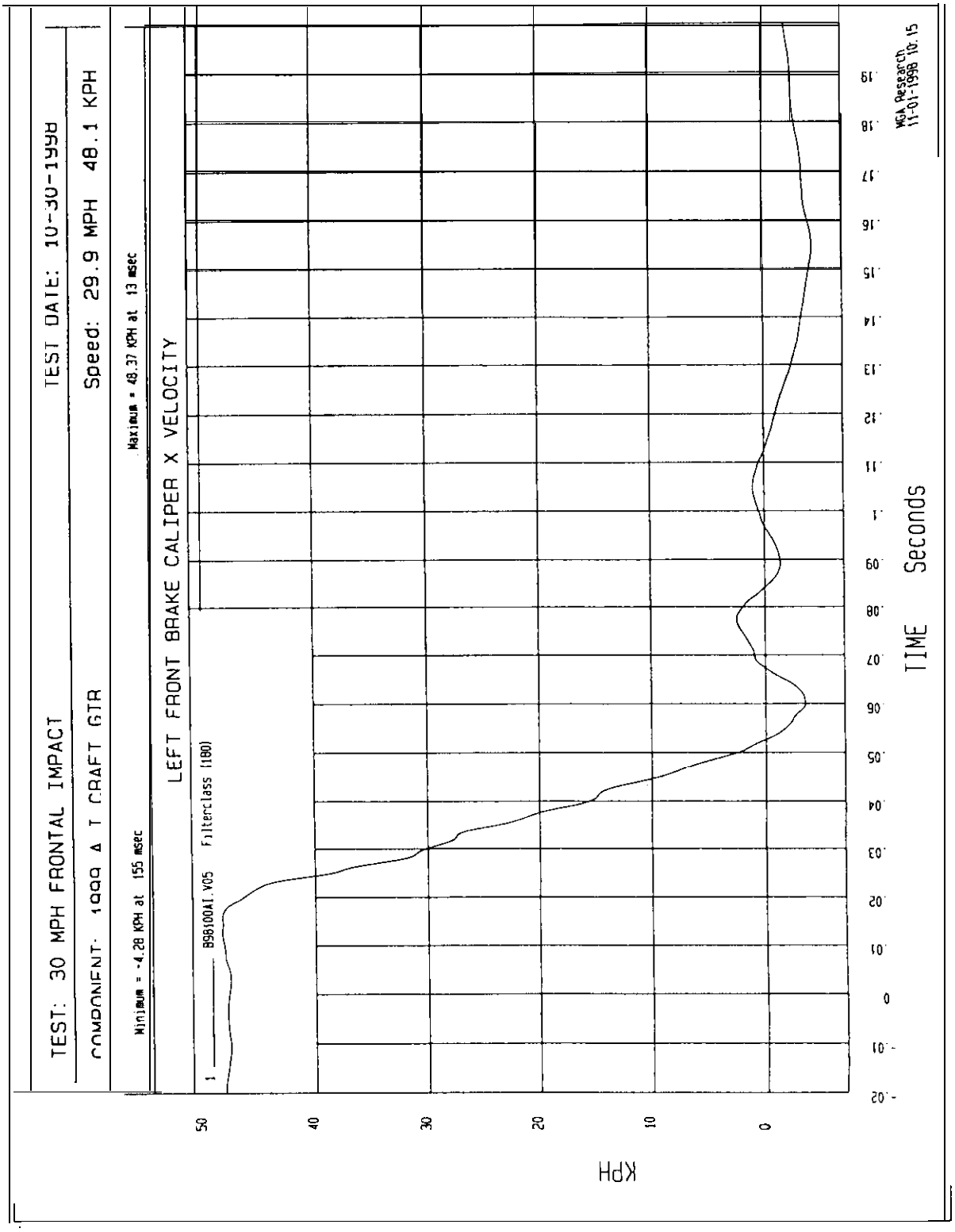

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -100.61 G'S at 36 msec
Maximum = 12.54 G'S at 49 msec
BOTTOM OF ENGINE X ACCELERATION
1 B98100AF.A09 Filterclass (60)
0
-20
-40
-60
-80
-100
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-01-1998 10:14

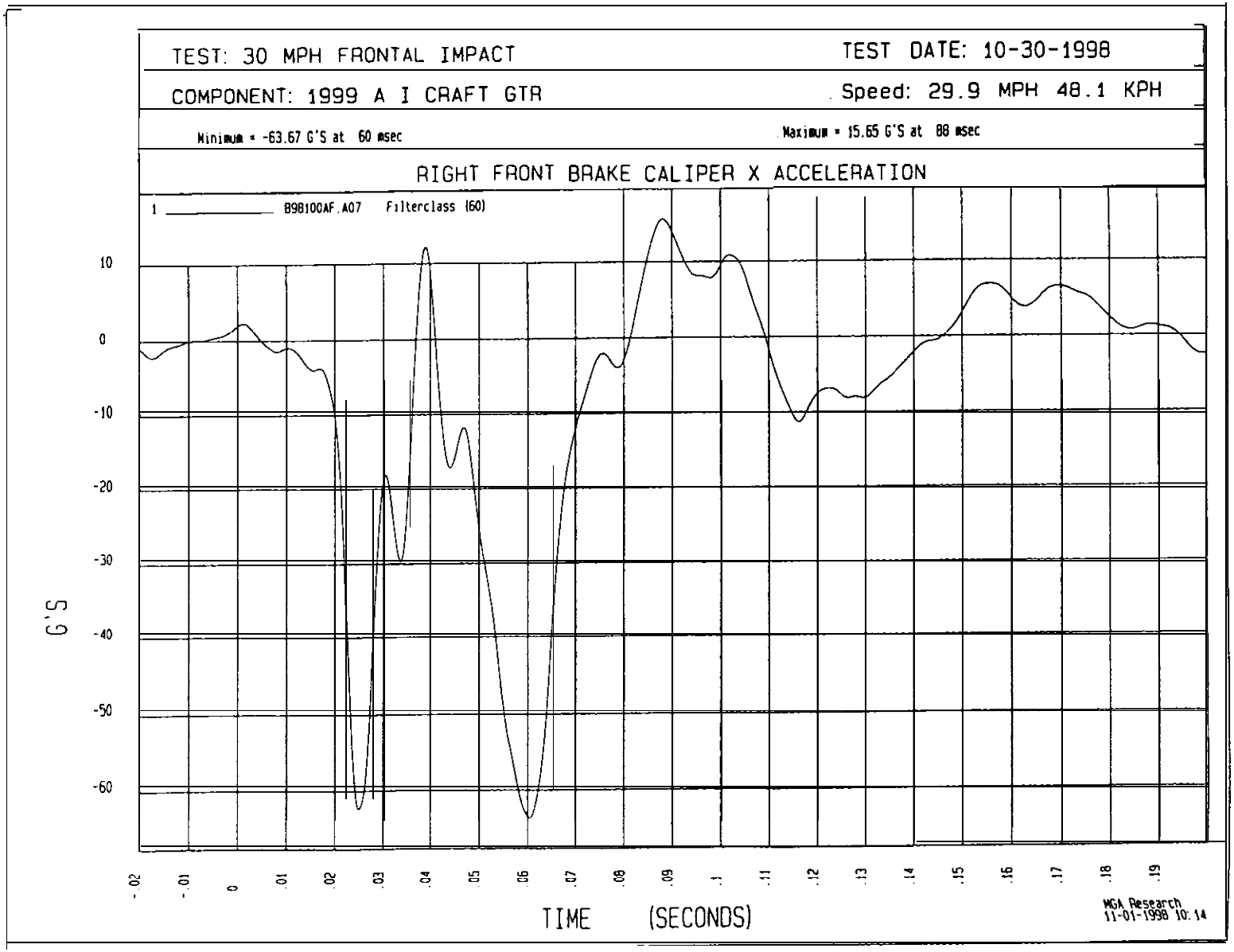

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -6.26 KPH at 159 msec
Maximum = 48.22 KPH at -11 msec
BOTTOM OF ENGINE X VELOCITY
1 B98100AI.V09 Filterclass (180)
KPH
50
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
11-01-1998 10:15

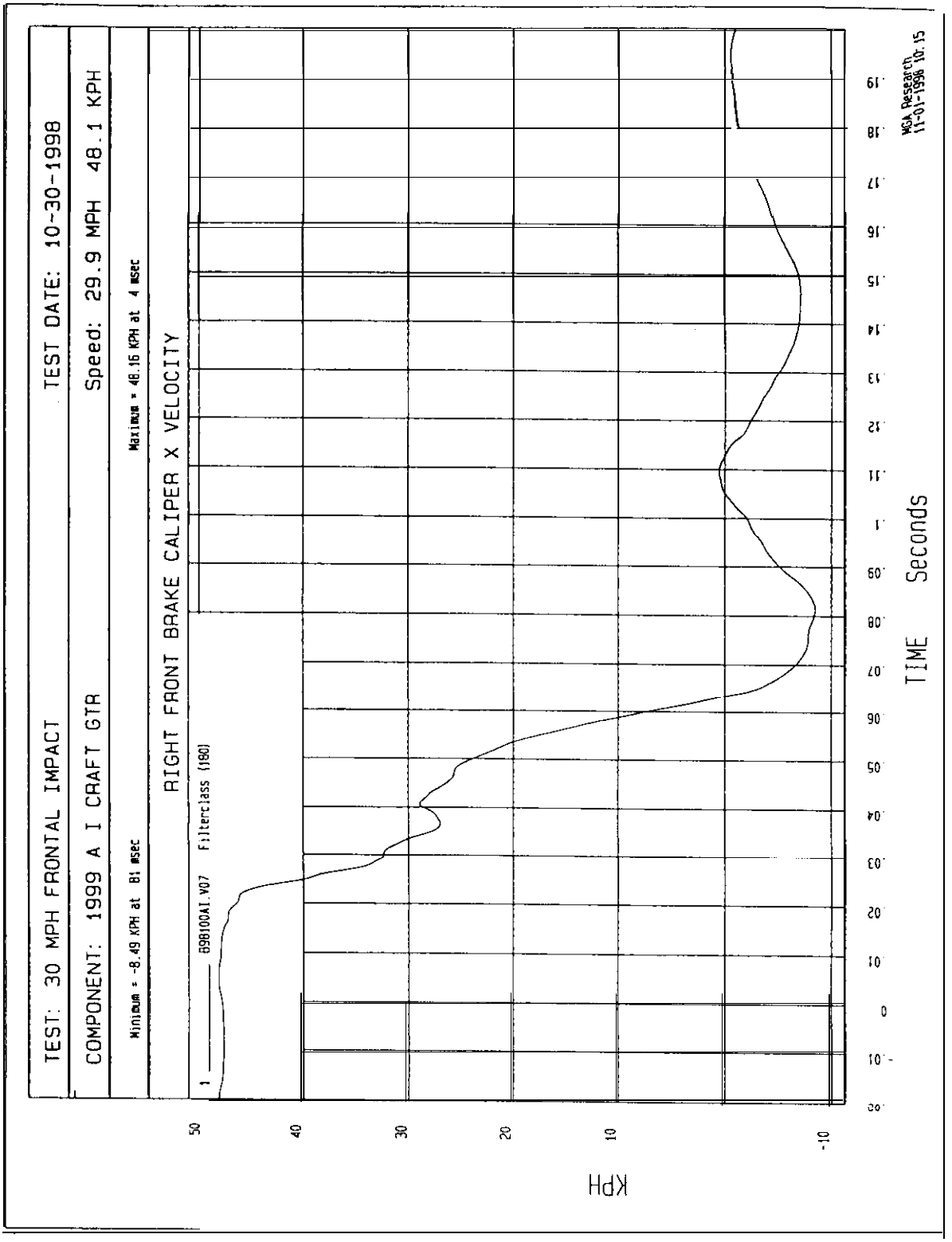

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -40.08 G'S at 47 msec
Maximum = 3.84 G'S at 35 msec
INSTRUMENT PANEL X ACCELERATION
1 B98100AF.A05 Filterclass (60)
MGA Research
11-01-1998 10:14
0
-10
-20
-30
-40
.19
.18
.17
.16
.15
.14
.13
.12
.11
.1
.09
.08
.07
.06
.05
.04
.03
.02
.01
0
-.01
-.02
TIME (SECONDS)
G's

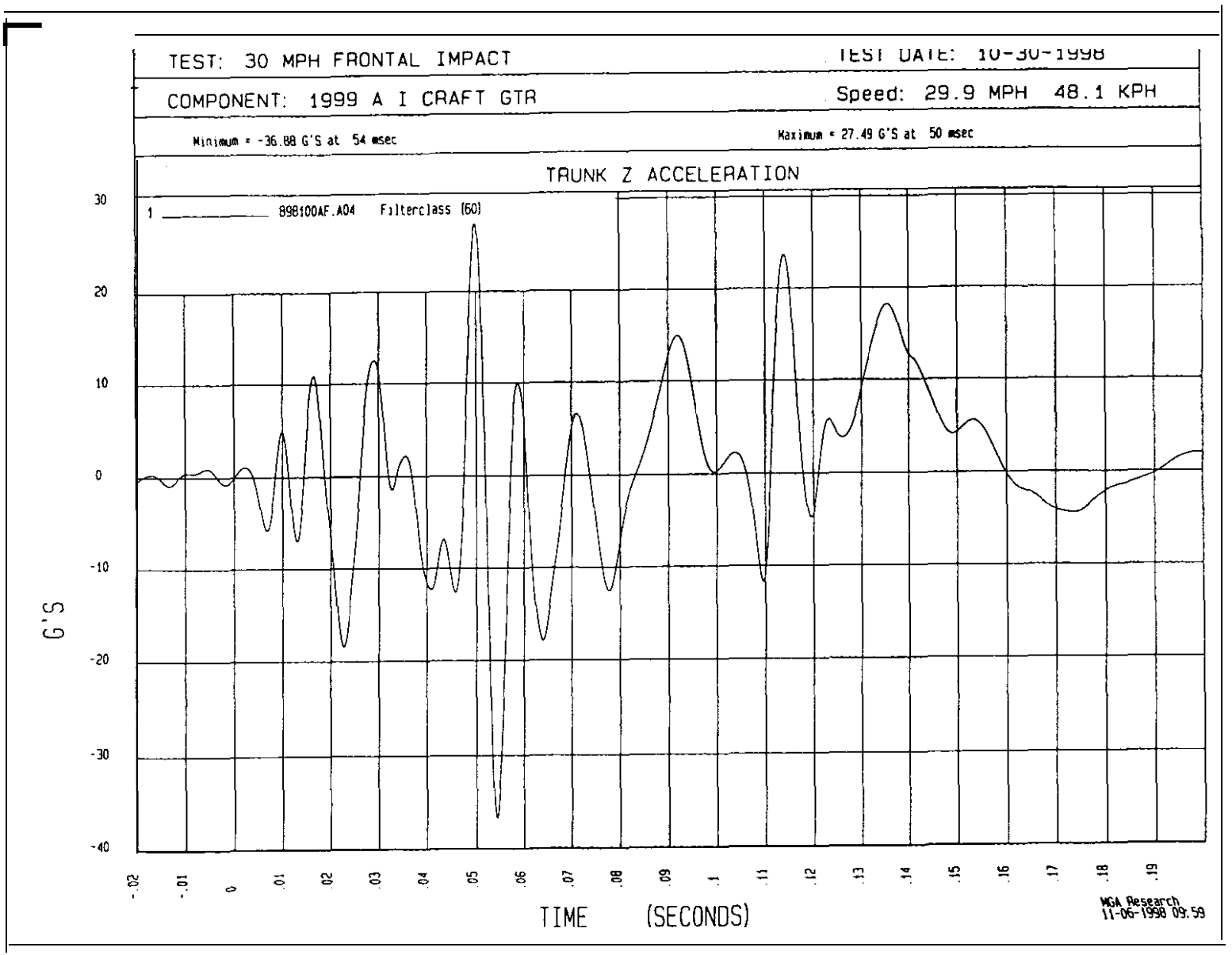

TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -18.88 KPH at 200 msec
Maximum = 48.18 KPH at -15 msec
INSTRUMENT PANEL X VELOCITY
1 ——— 899100AI.V06 Filterclass (180)
KPH
TIME Seconds
MGA Research
11-01-1998 10:15


TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -65.08 G'S at 25 msec
Maximum = 19.99 G'S at 66 msec
LEFT FRONT BRAKE CALIPER X ACCELERATION
1 B98100AF.A05 Filterclass (60)
20
10
0
-10
-20
-30
-40
-50
-60
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-01-1998 10:14


TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A T CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -4.28 KPH at 155 msec
Maximum = 48.37 KPH at 13 msec
LEFT FRONT BRAKE CALIPER X VELOCITY
1 B98100AI.V05 Filterclass (180)
KPH
TIME Seconds
MGA Research
11-01-1998 10:15


TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -63.67 G'S at 60 msec
Maximum = 15.65 G'S at 88 msec
RIGHT FRONT BRAKE CALIPER X ACCELERATION
1 B98100AF.A07 Filterclass (60)
10
0
-10
-20
-30
-40
-50
-60
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-01-1998 10:14


TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -8.49 KPH at 81 msec
Maximum = 48.16 KPH at 4 msec
RIGHT FRONT BRAKE CALIPER X VELOCITY
1 B98100AI.V07 Filterclass (180)
KPH
TIME Seconds
MGA Research
11-01-1998 10:15


TEST: 30 MPH FRONTAL IMPACT
TEST DATE: 10-30-1998
COMPONENT: 1999 A I CRAFT GTR
Speed: 29.9 MPH 48.1 KPH
Minimum = -36.88 G'S at 54 msec
Maximum = 27.49 G'S at 50 msec
TRUNK Z ACCELERATION
1 _____ 898100AF.A04 Filterclass (60)
30
20
10
0
-10
-20
-30
-40
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
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HYBRID III DUMMY CALIBRATION DATA SUMMARY SHEET

DUMMY NO.: 306 DUMMY CALIBRATION BY: Tim Michnay

VERIFICATION DATE: October 16, 1998

VERIFICATION LABORATORY TEMPERATURE (66° - 78°): 70°

1.0 HEAD DROP TEST

	SPECIFICATION	MEASUREMENT
Peak Resultant Acceleration	225 - 275 G	226
Peak Lateral Acceleration	15 G. MAX	-8
Is Acceleration Curve Unimodel	within 10% of peak	yes

2.0 NECK FLEXION TEST

		SPECIFICATION	MEASUREMENT
Pendulum Speed		22.6 - 23.4 FT/SEC	22.9
Pendulum Deceleration	10 MS	22.50 - 27.50 G	24.28
	20 MS	17.60 - 22.60 G	20.59
	30 MS	12.50 - 18.50 G	15.42
Max. Pendulum G Above 30 MS		29.0 G MAX	15.4
Deceleration - Time Curve Decay Time to 5 G		34 - 42 MS	39
D Plane Rotation	MAX	64 - 78 DEG.	73
	TIME	57 - 64 MS	59
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 MS	115
Moment About Occipital Condyle	MAX.	65 - 80 FT.LBS	68
	TIME	47 - 58 MS	51
Positive Moment Time Curve Decay Time to Zero		97 - 107 MS	99

HYBRID III DUMMY CALIBRATION DATA SUMMARY SHEET (CONT.)

3.0 NECK EXTENSION TEST

		SPECIFICATION	MEASUREMENT
Pendulum Speed		19.50 - 20.30 F/S	20.23
Pendulum Deceleration	10 MS	17.20 - 21.20 G	18.96
	20 MS	14.00 - 19.00 G	16.97
	30 MS	11.00 - 16.00 G	13.54
Max. Pendulum G Above 30 MS		22 G Max	14
Deceleration - Time Curve Decay Time to 5 G		38 - 46 MS	40
D Plane Rotation	MAX	81 - 106 DEG.	97
	TIME	72 - 82 MS	74
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 MS	152
Moment About Occipital Condyle	MIN.	-59.0/-39.0 FT LBS	-53.8
	TIME	65 - 79 MS	70
Positive Moment - Time Curve Decay Time to Zero		120 - 148 MS	141

4.0 CHEST IMPACT TESTS

	SPECIFICATION	MEASUREMENT
Probe Speed	21.6 to 22.4 F/S	22.0
Peak Deflection	2.50 to 2.86 IN	2.72
Peak Resistive Force	1160 to 1325 LBS.	1291
Internal Hysteresis	69 to 85%	71

HYBRID III DUMMY CALIBRATION DATA SUMMARY SHEET (CONT.)

5.0 KNEE IMPACT TESTS

RIGHT KNEE	SPECIFICATION	MEASUREMENT
Probe Speed	6.8 to 7.0 F/S	7.0
Maximum Force	1060 - 1300 LBS.	1152

LEFT KNEE	SPECIFICATION	MEASUREMENT
Probe Speed	6.8 to 7.0 F/S	6.8
Maximum Force	1060 - 1300 LBS.	1180

6.0 HIP JOINT-FEMUR FLEXION TEST

LEFT KNEE	SPECIFICATION	MEASUREMENT	
		LEFT	RIGHT
Relative Humidity	10 - 70%	52%	
Rotation Rate	5-10 DEG/SEC.	Yes	Yes
30 DEGREE MAX. ROTATION	70 FT-LBF	66	64
150 FT-LBF	40-50 DEGREE MAX. ROTATION	41°	41°

HYBRID III DUMMY CALIBRATION DATA SUMMARY SHEET

DUMMY NO.: 307 DUMMY CALIBRATION BY: Tim Michnay

VERIFICATION DATE: October 16, 1998

VERIFICATION LABORATORY TEMPERATURE (66° - 78°): 70°

1.0 HEAD DROP TEST

	SPECIFICATION	MEASUREMENT
Peak Resultant Acceleration	225 - 275 G	226
Peak Lateral Acceleration	15 G. MAX	-7
Is Acceleration Curve Unimodel	within 10% of peak	yes

2.0 NECK FLEXION TEST

		SPECIFICATION	MEASUREMENT
Pendulum Speed		22.6 - 23.4 FT/SEC	23.1
Pendulum Deceleration 20	10 MS	22.50 - 27.50 G	23.40
	MS	17.60 -22.60 G	18.76
	30 MS	12.50 - 18.50 G	12.95
Max. Pendulum G Above 30 MS		29.0 G MAX	12.9
Deceleration - Time Curve Decay Time to 5 G		34 - 42 MS	37
D Plane Rotation	MAX	64 - 78 DEG.	67
	TIME	57 - 64 MS	58
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 MS	113
Moment About Occipital Condyle	MAX.	65 - 80 FT.LBS	68
	TIME	47 - 58 MS	51
Positive Moment Time Curve Decay Time to Zero		97 - 107 MS	99

HYBRID III DUMMY CALIBRATION DATA SUMMARY SHEET (CONT.)

3.0 NECK EXTENSION TEST

		SPECIFICATION	MEASUREMENT
Pendulum Speed		19.50 - 20.30 F/S	20.19
Pendulum Deceleration	10 MS	17.20 - 21.20 G	20.14
	20 MS	14.00 - 19.00 G	17.11
	30 MS	11.00 - 16.00 G	13.14
Max. Pendulum G Above 30 MS		22 G Max	13
Deceleration - Time Curve Decay Time to 5 G		38 - 46 MS	39
D Plane Rotation	MAX	81 - 106 DEG.	93
	TIME	72 - 82 MS	75
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 MS	151
Moment About Occipital Condyle	MIN.	-59.0/-39.0 FT LBS	-50.4
	TIME	65 - 79 MS	70
Positive Moment - Time Curve Decay Time to Zero		120 - 148 MS	135

4.0 CHEST IMPACT TESTS

	SPECIFICATION	MEASUREMENT
Probe Speed	21.6 to 22.4 F/S	21.9
Peak Deflection	2.50 to 2.86 IN.	2.81
Peak Resistive Force	1160 to 1325 LBS.	1281
Internal Hysteresis	69 to 85%	72

HYBRID III DUMMY CALIBRATION DATA SUMMARY SHEET (CONT.)

5.0 KNEE IMPACT TESTS

RIGHT KNEE	SPECIFICATION	MEASUREMENT
Probe Speed	6.8 to 7.0 F/S	6.9
Maximum Force	1060 - 1300 LBS.	1065

LEFT KNEE	SPECIFICATION	MEASUREMENT
Probe Speed	6.8 to 7.0 F/S	6.9
Maximum Force	1060 - 1300 LBS.	1181

.0 HIP JOINT-FEMUR FLEXION TEST

LEFT KNEE	SPECIFICATION	MEASUREMENT	
		LEFT	RIGHT
Relative Humidity	10 - 70%	52%	
Rotation Rate	5-10 DEG/SEC.	Yes	Yes
30 DEGREE MAX. ROTATION	70 FT-LBF	57	48
150 FT-LBF	40-50 DEGREE MAX. ROTATION	42°	46°

APPENDIX D

DUMMY AND VEHICLE INSTRUMENTATION CALIBRATION

DUMMY INSTRUMENT CALIBRATION FOR DUMMY NO. 306

	DRIVER		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Head X	J12439	Endevco	June 9, 1998
Head Y	J12471	Endevco	June 9, 1998
Head Z	J12423	Endevco	June 9, 1998
Head X Redundant	J12425	Endevco	June 9, 1998
Head Y Redundant	J12462	Endevco	June 9, 1998
Head Z Redundant	J12449	Endevco	June 9, 1998
Chest X	J13941	Endevco	June 9, 1998
Chest Y	J13984	Endevco	June 9, 1998
Chest Z	J13927	Endevco	June 9, 1998
Chest X Redundant	J13772	Endevco	June 9, 1998
Chest Y Redundant	J14008	Endevco	June 9, 1998
Chest Z Redundant	J13028	Endevco	June 9, 1998
Chest Compression	306	Servo	October 1, 1998
Right Femur Load Cell	150	GSE	June 9, 1998
Left Femur Load Cell	957	GSE	June 9, 1998
Lap Belt Load Cell	314	Denton	October 14, 1998
Shoulder Belt Load Cell	317	Denton	October 14, 1998

DUMMY INSTRUMENT CALIBRATION FOR DUMMY NO. 307

	PASSENGER		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Head X	AHTN3	Endevco	June 22, 1998
Head Y	AHT12	Endevco	June 22, 1998
Head Z	AJ0C3	Endevco	June 22, 1998
Head X Redundant	J14896	Endevco	June 22, 1998
Head Y Redundant	J14771	Endevco	June 22, 1998
Head Z Redundant	J14774	Endevco	June 22, 1998
Chest X	AMP44	Endevco	June 22, 1998
Chest Y	AMRR4	Endevco	June 22, 1998
Chest Z	ALCRO	Endevco	June 22, 1998
Chest X Redundant	AMTG3	Endevco	June 22, 1998
Chest Y Redundant	AMTL6	Endevco	June 22, 1998
Chest Z Redundant	ALC37	Endevco	June 22, 1998
Chest Compression	307	Servo	September 17, 1998
Right Femur Load Cell	945	GSE	May 21, 1998
Left Femur Load Cell	946	GSE	May 21, 1998
Lap Belt Load Cell	166	Denton	October 14, 1998
Shoulder Belt Load Cell	624	Lebow	July 14, 1998

VEHICLE INSTRUMENT CALIBRATION

	VEHICLE ACCELEROMETERS		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Left Rear Seat Crossmember X	G01-J09	Entran	June 28, 1998
Right Rear Sat Crossmember X	J10-E05	Entran	June 16, 1998
Top of Engine Block X	J06-D24	Entran	September 24, 1998
Bottom of Engine X	K16-X02	Entran	September 15, 1998
Instrument Panel X	I18-E15	Entran	September 16, 1998
Left Front Brake Caliper X	G08-B04	Entran	June 17, 1998
Right Front Brake Caliper X	I25-J05	Entran	September 24, 1998
Trunk Z	F18-G11	Entran	September 15, 1998